National Pollutant Discharge Elimination System Permit
issued to

Permittee:
Mystic Aquarium
A Division of Sea Research Foundation Inc.
55 Coogan Boulevard
Mystic, CT 06355

Location Address:
Mystic Aquarium
A Division of Sea Research Foundation Inc
55 Coogan Boulevard
Mystic, CT 06355

Permit ID: CT0020630

Issuance Date: Date of Signature

Receiving Water Body: Mystic River

Effective Date: 1st of the month after Issuance Date

Receiving Water Body ID: CT-E1_007-SB

Permit Expires: 5 years from effective date

SECTION 1: GENERAL PROVISIONS

1.1 This permit is reissued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes ("Conn. Gen. Stat."), and Regulations of Connecticut State Agencies ("Regs. Conn. State Agencies") adopted thereunder, as amended, and Section 402(b) of the Clean Water Act ("CWA"), as amended, 33 USC 1251, *et. seq.*, and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a National Pollutant Discharge Elimination System ("NPDES") permit program.

1.2 **Mystic Aquarium, A Division of Sea Research Foundation Inc.** ("Permittee") shall comply with all conditions of this permit including the following sections of the Regs. Conn. State Agencies which have been adopted pursuant to Section 22a-430 of the Conn. Gen. Stat. and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsections (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (*l*)(2) of Section 22a-430-3.

Section 22a-430-3: *General Conditions*

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty to Comply
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(i) Facility Modifications; Notification
(j) Monitoring, Records and Reporting Requirements
(k) Bypass
(m) Effluent Limitation Violations (Upsets)
(n) Enforcement
(o) Resource Conservation
(p) Spill Prevention and Control
(q) Instrumentation, Alarms, Flow Recorders
(r) Equalization

Section 22a-430-4: *Procedures and Criteria*

(a) Duty to Apply
(b) Duty to Reapply
(c) Application Requirements
(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(i) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications, Approval
(*l*) Establishing Effluent Limitations and Conditions
(m) Case by Case Determinations
(n) Permit Issuance or Renewal
(o) Permit Transfer
(p) Permit Revocation, Denial or Modification
(q) Variances
(s) Treatment Requirements

1.3 Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the Conn. Gen. Stat. and Regs. Conn. State Agencies.

1.4 Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under Section 22a-438 or 22a-131a of the Conn. Gen. Stat. or in accordance with Section 22a-6, under Section 53a-157b of the Conn. Gen. Stat..

1.5 The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Energy and Environmental Protection ("Commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least thirty (30) days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the Conn. Gen. Stat. and Regs. Conn. State Agencies.

1.6 No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.

1.7 Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

1.8 An annual fee shall be paid for each year this permit is in effect as set forth in Section 22a-430-7 of the Regs. Conn. State Agencies.

1.9 The Permittee shall operate and maintain its collection and treatment system in accordance with its Operation and Maintenance Plan and with any approvals issued in accordance with Regs. Conn. State Agencies Section 22a-430-3(i)(3). The Permittee shall revise and maintain the Operation and Maintenance Plan upon the Commissioner's request or to address equipment or operational changes in accordance with Regs. Conn. State Agencies Section 22a-430-3(f)(2).

1.10 The Permittee shall implement its Spill Prevention and Control Plan in accordance with Regs. Conn. State Agencies Section 22a-430-3(p) and 22a-430-4(c)(10). The plan shall include practices, procedures and facilities designed to prevent, minimize and control spills, leaks or such other unplanned releases of all toxic or hazardous substances and any other substances to prevent pollution of the waters of the state. Such requirements shall, unless otherwise allowed by the Commissioner, apply to all facilities used for storing, handling, transferring, loading or unloading such substances, including manufacturing areas. The Permittee shall revise and maintain the Spill Prevention and Control Plan upon the Commissioner's request or to address equipment or operational changes.

SECTION 2: DEFINITIONS

2.1 The definitions of the terms used in this permit shall be the same as the definitions contained in Section 22a-423 of the Conn. Gen. Stat. and Section 22a-430-3(a) and 22a-430-6 of the Regs. Conn. State Agencies.

2.2 In addition to the above, the following definitions shall apply to this permit:

"40 CFR" means Title 40 of the Code of Federal Regulations.

"Annually" when used as a sampling frequency in this permit, means that reporting is required in the month of December.

"Average Monthly Limit" means the maximum allowable "Average Monthly Concentration" as defined in Section 22a-430-3(a) of the Regs. Conn. State Agencies when expressed as a concentration (e.g., mg/l). Otherwise, it means "Average Monthly Discharge Limitation" as defined in Section 22a-430-3(a) of the Regs. Conn. State Agencies.

Connecticut Water Quality Standards means the regulations adopted under Regs. Conn. State Agencies Sections 22a-426-1 through 22a-426-9, as amended.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or the arithmetic average of all grab sample results defining a grab sample average.

"DMR" means Discharge Monitoring Report.

"IC" means "Inhibition Concentration".

"IC_{25}" means a point estimate of the toxicant concentration that would cause a twenty-five (25) percent reduction in a non-lethal biological measurement of the test organism, such as reproduction or growth.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"In-stream Waste Concentration" ("IWC%") means the concentration (as a percent) of the effluent in the receiving water.

"LC" means Lethal Concentration

"LC_{50}" means the concentration lethal to fifty (50) percent of the test organisms during a specific period.

"Lowest Observed Effect Concentration" ("LOEC") means the lowest concentration of an effluent or toxicant to which organisms are exposed in a life cycle or partial life-cycle test, which causes adverse effects on the test organisms.

"Maximum Daily Limit" means the maximum allowable "Daily Concentration" (defined above)

when expressed as a concentration (e.g., mg/l). Otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity, it means "Maximum Daily Flow" as defined in Section 22a-430-3(a) of the Regs. Conn. State Agencies.

"No Observed Effect Concentration" ("NOEC") means the highest concentration of an effluent or toxicant to which organisms are exposed in a life cycle or partial life-cycle test, that causes no observable adverse effects on the test organisms.

"Quarterly", when used as a sampling frequency in this permit, means that sampling is required in the months of March, June, September, and December.

"Range During Sampling" ("RDS"), as a sample type, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of: 1) a Composite Sample or, 2) a Grab Sample Average. For those permittees with continuous monitoring and recording pH meters, Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

"Reporting Frequency" means the frequency at which monitoring results must be provided.

"Semiannual" when used as a sampling frequency in this permit, means that sampling is required in the months of February and August.

SECTION 3: COMMISSIONER'S DECISION

3.1 The Commissioner has issued a final determination and found that such discharge will not cause pollution of waters of the state. The Commissioner's decision is based on Application No. 201304082 for permit reissuance received on September 13, 2013, and the administrative record established in the processing of that application.

3.2 Upon the effective date of this permit and continuing until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of this permit, the information provided in Application No. 201304082, received by the Commissioner on September 13, 2013, and all modifications and approvals issued by the Commissioner or the Commissioner's authorized agent, for the discharge and/or activities authorized by, or associated with this Permit.

3.3 The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the Conn. Gen. Stat. or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or the Conn. Gen. Stat. or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL EFFLUENT LIMITATIONS

4.1 The Permittee shall assure that the surface water affected by the subject discharge shall conform to the *Connecticut Water Quality Standards*.

4.2 No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids, or cause visible discoloration or foaming in the receiving stream.

4.3 No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.

4.4 The temperature of any discharge shall not increase the temperature of the receiving stream above 85 °F, or in any case, raise the temperature of the receiving stream by more than 4 °F. During the period including July, August, and September, the temperature of the receiving water shall not be raised more than 1.5°F.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5.1 The discharge is restricted by and shall be monitored in accordance with the following tables in this section. The wastewater discharge shall not exceed the effluent limitations in these tables and shall otherwise conform to the specific terms and conditions listed in the tables. The Permittee shall comply with the "Footnotes" and "Remarks" noted in the tables that follow. Such footnotes and remarks are enforceable like any other term or condition of this permit.

5.2 The wastewaters authorized/approved by this permit shall be collected, treated, and discharged in accordance with this permit and with any approvals issued by the Commissioner or his/her authorized agent for the discharges and activities authorized by or associated with this permit. Any wastewater discharges not expressly identified in these tables or otherwise approved to be discharged by this permit shall not be authorized by this permit.

5.3 All samples shall be comprised of only the wastewater described in these tables. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Collection of permit-required effluent samples in any location other than the authorized location noted in this permit shall be a violation of this permit.

5.4 In cases where limits and sample type are specified but sampling is not required by this permit, the limits specified shall apply to all samples which may be collected and analyzed by the Department of Energy and Environmental Protection ("DEEP") personnel, the Permittee, or other parties.

5.5 DSN 002, 004, 005, 006, 007, 008, 009, 010, 011, and 012 shall not discharge concurrently with any discharge covered under this permit.

5.6 All discharges under this permit shall comply with the best management practices identified in the Permittee's Operation and Maintenance Plan ("the Plan"), entitled *Best Management Plan for Mystic Aquarium Exhibit Water Management* (October 2022), or the most up-to-date revision. Total residual chlorine shall be measured to confirm compliance with effluent limitations in DSNs 001 – 012, prior to initiating a discharge, as defined in the Plan.

Table A

Discharge Serial Number: DSN 001	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining ten inches or more from the Pre-Release Tank and well water overflow of the Pre-Release Tank.	
Monitoring Location Description: Sample tap located post pre-release tank pump prior to the sand filter or directly from the prerelease tank.	**Outfall Location:** Latitude (41◦ 22’ 22”) and Longitude (71◦ 57’ 54”)
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 9.4%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Monthly	Grab	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	5.52	14.4	Monthly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Monthly	Grab	0.02
Copper, Total	01042	ug/l	26.1	70.8	Monthly	Grab	NA	NR	NA	3
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[5]	82220	gpd	NA	18,500	Monthly	Daily Flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[4]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Salinity	00480	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Monthly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Monthly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	----	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the “Sample Frequency. If a “Reporting Frequency” does not follow this entry, then the “Reporting Frequency” is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels (“MLs”) identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee’s analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[6] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Table A										
Discharge Serial Number: DSN 001						**Monitoring Location:** 1 (EXTERNAL OUTFALL)				
Wastewater Description: Wastewater from draining ten inches or more from the Pre-Release Tank and well water overflow of the Pre-Release Tank.										
Monitoring Location Description: Sample tap located post pre-release tank pump prior to the sand filter or directly from the prerelease tank.						**Outfall Location:** Latitude (41◦ 22’ 22”) and Longitude (71◦ 57’ 54”)				
Discharge is to: Mystic River						**Instream Waste Concentration (IWC):** 9.4%				
PARAMETER	**NET DMR CODE**	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**MINIMUM LEVEL** [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If “---” is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling is to be conducted when seal(s) are present when possible.
6. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table B – Acute Toxicity Monitoring

Discharge Serial Number: DSN 001-AT

Monitoring Location Codes:
T – Acute toxicity effluent results and chemical analyses

Wastewater Description: Wastewater from draining ten inches or more from the Pre-Release Tank and well water overflow of the Pre-Release Tank.

Monitoring Location Description: Sample tap located post pre-release tank pump prior to the sand filter or directly from the pre-release tank

Discharge is to: Mystic River | **Zone of Influence:** 47,754 gallons per hour | **Instream Waste Concentration:** 9.4 % | **Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL[5]
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,10]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Whole Effluent Toxicity (WET)										
Acute Aquatic Toxicity[6] *Daphnia pulex,* LC_{50}	TAA3D	%	NA	28.4	Semi-Annually	Grab	NA	NR	NA	
Acute Aquatic Toxicity[6] *Pimephales promelas,* LC_{50}	TAA6C	%	NA	28.4	Semi-Annually	Grab	NA	NR	NA	
Acute Aquatic Toxicity[6] *Mysidopsis bahia,* LC_{50}	TAA3E	%	NA	28.4	Semi-Annually	Grab	NA	NR	NA	
Acute Aquatic Toxicity[6] *Cyprinodon variegatus,* LC_{50}	TAA6B	%	NA	28.4	Semi-Annually	Grab	NA	NR	NA	
Chemical Analyses Required with Acute Whole Effluent Toxicity Monitoring – See Section 7.1.6. for Acute Testing [7]										
Date of Acute WET Chemistry Sample Collection[8]	51883	YYYYMMDD	NA	---	Semi-Annually	Calculated	NA	NR	NA	
Alkalinity	00410	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	0.02
Copper, Dissolved	01040	µg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Copper, Total	01042	µg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	3
Dissolved Oxygen	00300	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Hardness, Total	00900	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Ammonia (total as N)	00610	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Kjeldahl (total as N)	00625	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Nitrate (total as N)	00620	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Nitrite (total as N)	00615	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	

Table B – Acute Toxicity Monitoring

Discharge Serial Number: DSN 001-AT

Monitoring Location Codes:
T – Acute toxicity effluent results and chemical analyses

Wastewater Description: Wastewater from draining ten inches or more from the Pre-Release Tank and well water overflow of the Pre-Release Tank.

Monitoring Location Description: Sample tap located post pre-release tank pump prior to the sand filter or directly from the pre-release tank

Discharge is to: Mystic River | **Zone of Influence:** 47,754 gallons per hour | **Instream Waste Concentration:** 9.4 % | **Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL[5]
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,10]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Nitrogen, Total (as N)[9]	00600	lbs/day	NA	---	Semi-Annually	Grab	NA	NR	NA	
pH	00400	SU	NA	---	Semi-Annually	Grab	NA	NR	NA	
Phosphorus, Total	00665	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	
Salinity	00480	Mg/l	NA	----	Semi-Annually	Grab	NA	NR	NA	
Specific Conductance	51409	uMhos	NA	---	Semi-Annually	Grab	NA	NR	NA	
Temperature	00011	Deg. F.	NA	---	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	

Table B – Acute Toxicity Monitoring

Discharge Serial Number: DSN 001-AT	**Monitoring Location Codes:** T – Acute toxicity effluent results and chemical analyses
Wastewater Description: Wastewater from draining ten inches or more from the Pre-Release Tank and well water overflow of the Pre-Release Tank.	
Monitoring Location Description: Sample tap located post pre-release tank pump prior to the sand filter or directly from the pre-release tank	

Discharge is to: Mystic River	**Zone of Influence:** 47,754 gallons per hour	**Instream Waste Concentration:** 9.4 %	**Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	**NET DMR CODE**	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**MINIMUM LEVEL[5]**
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,10]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	

TABLE A FOOTNOTES AND REMARKS

Footnotes:

[1] WET limits are expressed as a minimum daily limit, meaning the minimum allowable daily discharge over the course of the 24-hour sampling period. Chemical results analyzed in conjunction with WET tests shall be reported as the max value collected during the 24-hour sampling period.

[2] The first entry in this column is the “Sample Frequency”. If a “Reporting Frequency” does not follow this entry and the “Sample Frequency” is more frequent than monthly, then the “Reporting Frequency” is monthly. If the “Sample Frequency” is specified as monthly, or less frequent, then the “Reporting Frequency” is monthly.

[3] If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the DMR in accordance with Section 8.2 of this permit.

[4] Daily composite samples shall be collected for acute toxicity tests consistent with the methodology outlined in Section 7.1 of this permit.

[5] “Minimum Level” refers to Section 6.3 of this permit.

[6] Acute toxicity testing shall be conducted, and species selected in accordance with Footnote 10 in this table. The LC_{50} results (in %) for the acute toxicity testing shall be reported on the DMR. The Aquatic Toxicity Monitoring Report (“ATMR”) shall be completed for each toxicity testing event and submitted in accordance with Section 8.2 of this permit.

[7] Chemical analyses shall be conducted on samples used in the acute toxicity tests. These analyses shall be conducted on all samples used in the acute toxicity test and reported under Monitoring Location T. Results shall also be included on the ATMR and submitted in accordance with Section 8.2 of this permit.

[8] The Permittee shall report the date of sample collection for the acute toxicity test and associated chemistry data in the format: year month day (YYYYMMDD).

[9] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: mg/L means milligrams per liter; SU means Standard Units; mg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling; RDM means Range During Month.
2. If “---” is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. Analyses that indicate that a parameter was not detected or that was detected less than the noted ML shall be reported in accordance with Section 6.5.
4. Sampling is to be conducted when seal(s) are present when possible.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table C

Discharge Serial Number: DSN 002	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining 10 inches or more from the Aquatic Animal Study Center Tank	
Monitoring Location Description: Sample tap located post Aquatic Animal Study Center pool pumps #1 or #2 and prior to the sand filters or directly from the aquatic animal study tanks.	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 14.9%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Quarterly	Grab	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	2.2	4.42	Quarterly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Quarterly	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[5]	82220	gpd	NA	200,000	Quarterly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[6]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[6] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge. If both Aquatic Animal Study Center pools discharge on the same day, a grab sample of equal volume must be collected from each monitoring location and combined into a single sample for analysis. The Permittee must include as an attachment to the DMR, the sample location (sample tap from pump #1 or #2) that was used for the compliance sample.

Table D

Discharge Serial Number: DSN 003	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining 10 inches or more form the Individual Care Units and well water overflow from the Individual Care Units	
Monitoring Location Description: Sample tap located post ICU pump #1-#7 and prior to the sand filter or directly from the tanks.	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 11.7%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Monthly	Daily Composite	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	4.88	14.9	Monthly	Daily Composite	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Monthly	Grab[5]	0.02
Copper, Total	01042	ug/l	26.1	70.8	Semi-Annually	Daily Composite	NA	NR	NA	3
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Flow, Total[6]	82220	gpd	NA	40,000	Monthly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrogen, Total (as N)[7]	00600	lbs/day	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Salinity	00480	mg/L	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
(Interim)[3] pH, Minimum	61942	SU	NA	NA	NR	NA	6	Monthly	Grab	
(Final)[8] pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Monthly	Grab	
(Interim)[3] pH, Maximum	61941	SU	NA	NA	NR	NA	9	Monthly	Grab	
(Final)[8] pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Monthly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For Total Residual Chlorine: the Permittee shall take a grab sample at the beginning middle and end of the discharge.

[6] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[7] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

[8] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.2 of this Permit.

Table D										
Discharge Serial Number: DSN 003						**Monitoring Location:** 1 (EXTERNAL OUTFALL)				
Wastewater Description: Wastewater from draining 10 inches or more form the Individual Care Units and well water overflow from the Individual Care Units										
Monitoring Location Description: Sample tap located post ICU pump #1-#7 and prior to the sand filter or directly from the tanks.						**Outfall Location:** Latitude (41◦ 22’ 22”) and Longitude (71◦ 57’ 54”)				
Discharge is to: Mystic River						**Instream Waste Concentration (IWC):** 11.7%				
PARAMETER	**NET DMR CODE**	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**MINIMUM LEVEL** [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If “---” is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling is to be conducted when seal(s) are present when possible.
6. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge. If more than one ICU unit discharge occurs in a sample day, a grab sample of equal volume must be collected from each monitoring location and combined into a single sample for analysis. The Permittee must include as an attachment to the DMR, the sample location (sample tap from ICU pumps #1 #2, #3, …) that was used for the compliance sample.

Table E – Acute Toxicity Monitoring

Discharge Serial Number: DSN 003-AT

Monitoring Location Codes: T – Acute toxicity effluent results and chemical analyses

Wastewater Description: Wastewater from draining 10 inches or more form the Individual Care Units and well water overflow from the Individual Care Units

Monitoring Location Description: Sample tap located post ICU pump #1-#7 and prior to the sand filter or directly from the tanks

Discharge is to: Mystic River | **Zone of Influence:** 47,754 gallons per hour | **Instream Waste Concentration:** 11.7 % | **Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL[5]
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,10]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Whole Effluent Toxicity (WET)										
Acute Aquatic Toxicity[6] *Daphnia pulex,* LC_{50}	TAA3D	%	NA	41.1	Semi-Annually	Daily Composite	NA	NR	NA	
Acute Aquatic Toxicity[6] *Pimephales promelas,* LC_{50}	TAA6C	%	NA	41.1	Semi-Annually	Daily Composite	NA	NR	NA	
Acute Aquatic Toxicity[6] *Mysidopsis bahia,* LC_{50}	TAA3E	%	NA	41.1	Semi-Annually	Daily Composite	NA	NR	NA	
Acute Aquatic Toxicity[6] *Cyprinodon variegatus,* LC_{50}	TAA6A	%	NA	41.1	Semi-Annually	Daily Composite	NA	NR	NA	
Chemical Analyses Required with Acute Whole Effluent Toxicity Monitoring – See Section 7.1.6. for Acute Testing [7]										
Date of Acute WET Chemistry Sample Collection[8]	51883	YYYYMMDD	NA	---	Semi-Annually	Calculated	NA	NR	NA	
Alkalinity	00410	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	0.02
Copper, Dissolved	01040	µg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Copper, Total	01042	µg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	3
Dissolved Oxygen	00300	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Hardness, Total	00900	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrogen, Ammonia (total as N)	00610	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrogen, Kjeldahl (total as N)	00625	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrogen, Nitrate (total as N)	00620	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Nitrogen, Nitrite (total as N)	00615	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	

Table E – Acute Toxicity Monitoring

Discharge Serial Number: DSN 003-AT

Monitoring Location Codes:
T – Acute toxicity effluent results and chemical analyses

Wastewater Description: Wastewater from draining 10 inches or more form the Individual Care Units and well water overflow from the Individual Care Units

Monitoring Location Description: Sample tap located post ICU pump #1-#7 and prior to the sand filter or directly from the tanks

Discharge is to: Mystic River | **Zone of Influence:** 47,754 gallons per hour | **Instream Waste Concentration:** 11.7 % | **Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL[5]
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency[2, 3]	Sample Type or Measurement to be Reported[4,10]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Nitrogen, Total (as N)[9]	00600	lbs/day	NA	---	Semi-Annually	Calculation	NA	NR	NA	
pH	00400	SU	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Phosphorus, Total	00665	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Salinity	00480	Mg/l	NA	----	Semi-Annually	Daily Composite	NA	NR	NA	
Specific Conductance	51409	uMhos	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Temperature	00011	Deg. F.	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	---	Semi-Annually	Daily Composite	NA	NR	NA	

Table E – Acute Toxicity Monitoring

Discharge Serial Number: DSN 003-AT	**Monitoring Location Codes:** T – Acute toxicity effluent results and chemical analyses
Wastewater Description: Wastewater from draining 10 inches or more form the Individual Care Units and well water overflow from the Individual Care Units	
Monitoring Location Description: Sample tap located post ICU pump #1-#7 and prior to the sand filter or directly from the tanks	

Discharge is to: Mystic River	**Zone of Influence:** 47,754 gallons per hour	**Instream Waste Concentration:** 11.7 %	**Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	**NET DMR CODE**	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**MINIMUM LEVEL[5]**
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,10]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	

TABLE A FOOTNOTES AND REMARKS

Footnotes:

[1] WET limits are expressed as a minimum daily limit, meaning the minimum allowable daily discharge over the course of the 24-hour sampling period. Chemical results analyzed in conjunction with WET tests shall be reported as the max value collected during the 24-hour sampling period.

[2] The first entry in this column is the “Sample Frequency”. If a “Reporting Frequency” does not follow this entry and the “Sample Frequency” is more frequent than monthly, then the “Reporting Frequency” is monthly. If the “Sample Frequency” is specified as monthly, or less frequent, then the “Reporting Frequency” is monthly.

[3] If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the DMR in accordance with Section 8.2 of this permit.

[4] Daily composite samples shall be collected for acute toxicity tests consistent with the methodology outlined in Section 7.1 of this permit.

[5] “Minimum Level” refers to Section 6.3 of this permit.

[6] Acute toxicity testing shall be conducted, and species selected in accordance with Footnote 10 of this table. The LC_{50} results (in %) for the acute toxicity testing shall be reported on the DMR. The Aquatic Toxicity Monitoring Report (“ATMR”) shall be completed for each toxicity testing event and submitted in accordance with Section 8.2 of this permit.

[7] Chemical analyses shall be conducted on samples used in the acute toxicity tests. These analyses shall be conducted on all samples used in the acute toxicity test and reported under Monitoring Location T. Results shall also be included on the ATMR and submitted in accordance with Section 8.2 of this permit.

[8] The Permittee shall report the date of sample collection for the acute toxicity test and associated chemistry data in the format: year month day (YYYYMMDD).

[9] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: mg/L means milligrams per liter; SU means Standard Units; mg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling; RDM means Range During Month.
2. If “---” is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. Analyses that indicate that a parameter was not detected or that was detected less than the noted ML shall be reported in accordance with Section 6.5.
4. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge. If more than one ICU unit discharge occurs in a sample day, a grab sample of equal volume must be collected from each monitoring location and combined into a single sample for analysis. The Permittee must include as an attachment to the DMR, the sample location (sample tap from ICU pumps #1 #2, #3, …) that was used for the compliance sample.

Table F

Discharge Serial Number: DSN 004 | **Monitoring Location:** 1 (EXTERNAL OUTFALL)

Wastewater Description: Disinfection of tanks and ground around the Seal Rescue Clinic

Monitoring Location Description: Directly from the blocked trench drain in the Animal Rescue Clinic

Discharge is to: Mystic River | **Instream Waste Concentration (IWC):** 1%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Quarterly	Grab	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	22.7	69.8	Quarterly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Quarterly	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[5]	82220	gpd	NA	3.600	Quarterly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[6]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	---	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[6] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table G

Discharge Serial Number: DSN 005	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Disinfection of tanks and ground surfaces in the Aquatic Animal Study Center	
Monitoring Location Description: Directly from trench drain within the berm at the Aquatic Animal Study Center	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 1%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
Ammonia (as N)	00610	mg/L	----	----	Quarterly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Quarterly	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[3]	82220	gpd	NA	3.600	Quarterly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[4]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[4] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table H

Discharge Serial Number: DSN 006	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining 10 inches or more from the Marine Theater	
Monitoring Location Description: Sample tap post Marine Theater tanks' sand filtration system or directly from the tanks.	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 26.3%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
Ammonia (as N)	00610	mg/L	----	----	Per event	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Per event	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Per event	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Per event	Grab	NA	NR	NA	
Flow, Total[3]	82220	gpd	NA	409,000	Per event	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Per event	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Per event	Grab	NA	NR	NA	
Nitrogen, Total (as N)[4]	00600	lbs/day	NA	----	Per event	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Per event	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Per event	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Per event	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Per event	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Per event	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[4] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge. If the Permittee dishcarges through more then one sample location in a day, a grab sample of equal volume must be collected from each monitoring location and combined into a single sample for analysis. The Permittee must include as an attachment to the DMR, the sample location (sample tap from pump #1, #2, and or #3) that was used for the compliance sample.

Table I

Discharge Serial Number: DSN 007	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining 10 inches or more from the Arctic Coast	
Monitoring Location Description: Sample tap post Arctic Coast primary line pump or directly from the tank	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 41.1%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
Ammonia (as N)	00610	mg/L	0.77	1.66	Quarterly	Grab	NA	NR	Grab	
Chlorine, Total Residual	50060	mg/L	0.02[5]	0.02	Quarterly	Grab	0.02	NR	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[3]	82220	gpd	NA	800,000	Quarterly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[4]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[4] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

[5] The average monthly limit for this parameter is 0.011 mg/L. The average monthly limit is below the ML for the analytical test: therefore, a compliance level of 0.02 mg/l has been set equivalent to the ML. Results at or below the compliance level will be considered in compliance with permit effluent limits. Effluent data shall be reported in accordance with Section 6.5.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table J

Discharge Serial Number: DSN 008	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from raining 10 inches or more from the Pacific Northwest Exhibit Tank	
Monitoring Location Description: Sample tap post Pacific Northwest primary line pump or directly from the tank	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 11.6 %

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Quarterly	Grab	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	2.16	6.63	Quarterly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Quarterly	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[5]	82220	gpd	NA	150,000	Quarterly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[6]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[6] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table K

Discharge Serial Number: DSN 009 | **Monitoring Location:** 1 (EXTERNAL OUTFALL)

Wastewater Description: Overflow and draining of exhibit area freshwater pond and stream

Monitoring Location Description: Exhibit area pond and stream overflow | **Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")

Discharge is to: Mystic River | **Instream Waste Concentration (IWC):** 19.6%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
Ammonia (as N)	00610	mg/L	----	----	Annually	Daily Composite	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Annually	Grab[5]	0.02
Enterococci	61211	#/100ml	NA	----	Annually	Daily Composite	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Annually	Daily Composite	NA	NR	NA	
Flow, Total[3]	82220	gpd	NA	280,000	Annually	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Annually	Daily Composite	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Annually	Daily Composite	NA	NR	NA	
Nitrogen, Total (as N)[4]	00600	lbs/day	NA	----	Annually	Daily Composite	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Annually	Daily Composite	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Annually	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Annually	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Annually	Daily Composite	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Annually	Daily Composite	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[4] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

[5] For TRC grab samples: the Permittee shall take a grab sample at the beginning, middle, and end of the discharge.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.

Table L – Acute Toxicity Monitoring

Discharge Serial Number: DSN 009-AT

Monitoring Location Codes:
T – Acute toxicity effluent results and chemical analyses

Wastewater Description: Overflow and draining of exhibit area freshwater pond and stream

Monitoring Location Description: Exhibit area pond and stream overflow

Discharge is to: Mystic River | **Zone of Influence:** 47,754 gallons per hour | **Instream Waste Concentration:** 19.6 % | **Outfall Location:** Latitude (41◦ 22' 22" and Longitude (71◦ 57' 54")

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL[5]
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,11]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Whole Effluent Toxicity (WET)										
Acute Aquatic Toxicity[6] *Daphnia pulex,* LC_{50}	TAA3D	%	NA	----	Annually[9]	Daily Composite	NA	NR	NA	
Acute Aquatic Toxicity[6] *Pimephales promelas,* LC_{50}	TAA6C	%	NA	----	Annually[9]	Daily Composite	NA	NR	NA	
Chemical Analyses Required with Acute Whole Effluent Toxicity Monitoring – See Section 7.1.6. for Acute Testing [7]										
Date of Acute WET Chemistry Sample Collection[8]	51883	YYYYMMDD	NA	---	Annually[9]	Calculated	NA	NR	NA	
Alkalinity	00410	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	0.2
Copper, Dissolved	01040	µg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Copper, Total	01042	µg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	3
Dissolved Oxygen	00300	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Hardness, Total	00900	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Nitrogen, Ammonia (total as N)	00610	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Nitrogen, Kjeldahl (total as N)	00625	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Nitrogen, Nitrate (total as N)	00620	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Nitrogen, Nitrite (total as N)	00615	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Nitrogen, Total (as N)[10]	00600	lbs/day	NA	---	Annually[9]	Calculation	NA	NR	NA	
pH	00400	SU	NA	---	Annually[9]	Daily Composite	NA	NR	NA	

Table L – Acute Toxicity Monitoring

Discharge Serial Number: DSN 009-AT

Monitoring Location Codes:
T – Acute toxicity effluent results and chemical analyses

Wastewater Description: Overflow and draining of exhibit area freshwater pond and stream

Monitoring Location Description: Exhibit area pond and stream overflow

Discharge is to: Mystic River	**Zone of Influence:** 47,754 gallons per hour	**Instream Waste Concentration:** 19.6 %	**Outfall Location:** Latitude (41◦ 22’ 22” and Longitude (71◦ 57’ 54”)

PARAMETER	**NET DMR CODE**	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**MINIMUM LEVEL[5]**
			Average Monthly Limit	Minimum Daily Limit or Maximum Daily Limit[1]	Sample/ Reporting Frequency [2, 3]	Sample Type or Measurement to be Reported [4,11]	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Phosphorus, Total	00665	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Specific Conductance	51409	uMhos	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Temperature	00011	Deg. F.	NA	---	Annually[9]	Daily Composite	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	---	Annually[9]	Daily Composite	NA	NR	NA	

TABLE A FOOTNOTES AND REMARKS

Footnotes:

[1] WET limits are expressed as a minimum daily limit, meaning the minimum allowable daily discharge over the course of the 24-hour sampling period. Chemical results analyzed in conjunction with WET tests shall be reported as the max value collected during the 24-hour sampling period.

[2] The first entry in this column is the “Sample Frequency”. If a “Reporting Frequency” does not follow this entry and the “Sample Frequency” is more frequent than monthly, then the “Reporting Frequency” is monthly. If the “Sample Frequency” is specified as monthly, or less frequent, then the “Reporting Frequency” is monthly.

[3] If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the DMR in accordance with Section 8.2 of this permit.

[4] Daily composite samples shall be collected for acute toxicity tests consistent with the methodology outlined in Section 7.1 of this permit.

[5] “Minimum Level” refers to Section 6.3 of this permit.

[6] Acute toxicity testing shall be conducted, and species selected in accordance with Section 7.1 of this permit. The LC_{50} results (in %) for the acute toxicity testing shall be reported on the DMR. The Aquatic Toxicity Monitoring Report (“ATMR”) shall be completed for each toxicity testing event and submitted in accordance with Section 8.2 of this permit.

[7] Chemical analyses shall be conducted on samples used in the acute toxicity tests. These analyses shall be conducted on all samples used in the acute toxicity test and reported under Monitoring Location T. Results shall also be included on the ATMR and submitted in accordance with Section 8.2 of this permit.

[8] The Permittee shall report the date of sample collection for the acute toxicity test and associated chemistry data in the format: year month day (YYYYMMDD).

[9] The Permittee may sample the discharge at any time during the calendar year and submit the data on the December DMR.

[10] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

[11] For daily composite and grab sample average samples types: if the duration of the discharge is less than 3 hours, the Permittee is required to take equal volume aliquots at the beginning, middle, and end of the discharge.

Remarks:

1. Abbreviations used for units are as follows: mg/L means milligrams per liter; SU means Standard Units; mg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling; RDM means Range During Month.
2. If “---” is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. Analyses that indicate that a parameter was not detected or that was detected less than the noted ML shall be reported in accordance with Section 6.5.

Table M

Discharge Serial Number: DSN 010	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining 10 inches or more from the Penguins Pavilion	
Monitoring Location Description: Sample tap prior to the Penguin Pavillion primary line pump or directly from the tank	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 3.1%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Quarterly	Grab	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	9.59	23.1	Quarterly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Quarterly	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[5]	82220	gpd	NA	36,840	Quarterly	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[6]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[6] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day..

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table N

Discharge Serial Number: DSN 011	**Monitoring Location:** 1 (EXTERNAL OUTFALL)
Wastewater Description: Wastewater from draining 10 inches or more from the Pacific Northwest Holding Pool	
Monitoring Location Description: Sample tap post Pacific Northwest Holding Pool primary line pump or directly from the tank	**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")
Discharge is to: Mystic River	**Instream Waste Concentration (IWC):** 1%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
(Interim)[3] Ammonia (as N)	00610	mg/L	----	----	Annually	Grab	NA	NR	NA	
(Final)[4] Ammonia (as N)	00610	mg/L	31.8	68.2	Annually	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	0.02	Annually	Grab	0.02
Enterococci	61211	#/100ml	NA	----	Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Annually	Grab	NA	NR	NA	
Flow, Total[5]	82220	gpd	NA	6,500	Annually	Daily flow	NA	NR	NA	
Nitrate (as N)	00620	mg/L	NA	----	Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[6]	00600	lbs/day	NA	----	Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Annually	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Annually	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] Interim limits take effect upon permit effective date.

[4] Final limits shall take effect four years and 11 months after the effective date of the permit or upon completion of all actions required under Section 10.1 of this Permit.

[5] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge.

[6] Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

Table O

Discharge Serial Number: DSN 012 | **Monitoring Location:** 1 (EXTERNAL OUTFALL)

Wastewater Description: Partial drain of less than 10 inches of any of the tanks covered by DSNs 001 through DSN 0011 (i.e., overflow and draining of Exhibit Tanks and Pools associated with routine maintenance activities)

Monitoring Location Description: In accordance with the Monitoring Location Description in Tables A-N. | **Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")

Discharge is to: Mystic River | **Instream Waste Concentration (IWC):** 14.9%

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	
Ammonia (as N)	00610	mg/L	NA	----	Quarterly	Grab	NA	NR	NA	
Chlorine, Total Residual	50060	mg/L	0.024	0.04	Quarterly	Grab	0.3	Quarterly[5]	Grab	0.02
Chlorine, Total Residual	50059	g/hour	NA	NA	Quarterly	Grab	5.7	Quarterly	Grab	
Enterococci	61211	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Fecal coliform	74055	#/100ml	NA	----	Semi-Annually	Grab	NA	NR	NA	
Flow, Total[3]	82220	gpd	NA	200,000	Quarterly	Daily Flow	NA	NR	NA	
Flow, Instantaneous	00059	Gal/hour	NA	NA	NR	NA	22,000	Quarterly	Flow	
Nitrate (as N)	00620	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrite (as N)	00615	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen, Total (as N)[4]	00600	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Nitrogen Kjeldahl, Total (as N)	81639	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	
pH, Minimum	61942	SU	NA	NA	NR	NA	6.8	Quarterly	Grab	
pH, Maximum	61941	SU	NA	NA	NR	NA	8.5	Quarterly	Grab	
Phosphorus, Total	00665	lbs/day	NA	----	Semi-Annually	Grab	NA	NR	NA	
Total Suspended Solids	00530	mg/L	NA	----	Semi-Annually	Grab	NA	NR	NA	

TABLE FOOTNOTES AND REMARKS

Footnotes:

[1] The first entry in this column is the "Sample Frequency. If a "Reporting Frequency" does not follow this entry, then the "Reporting Frequency" is monthly.

[2] Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.

[3] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge, the locations that discharged that day, and the duration of discharge at each location.

[4]Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be multiplied by the Total Daily Flow and converted to lbs/day.

Table O											
Discharge Serial Number: DSN 012							**Monitoring Location:** 1 (EXTERNAL OUTFALL)				
Wastewater Description: Partial drain of less than 10 inches of any of the tanks covered by DSNs 001 through DSN 0011 (i.e., overflow and draining of Exhibit Tanks and Pools associated with routine maintenance activities)											
Monitoring Location Description: In accordance with the Monitoring Location Description in Tables A-N.							**Outfall Location:** Latitude (41◦ 22' 22") and Longitude (71◦ 57' 54")				
Discharge is to: Mystic River							**Instream Waste Concentration (IWC):** 14.9%				
PARAMETER	**NET DMR CODE**	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**MINIMUM LEVEL** [2]
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency [1]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample/ Reporting Frequency	Sample Type or Measurement to be Reported	

Remarks:

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
2. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. In calculating average concentrations, use zeros for values reported as less than the ML.
4. Actual MLs reported by the laboratory must be reported on the DMR. Detected concentrations less than the noted ML shall be reported on the DMR as the concentration reported by the laboratory.
5. Compliance monitoring to be conducted during dry weather only.
6. This table covers the partial lowering and draining of exhibit tanks and pools associated with routine maintenance activities. Should the level of any tank be lowered by more than 10 inches, it shall only be done in accordance with the restriction provided in Tables A through N.
7. Wastewater shall be analyzed for total residual chlorine ("TRC") prior to discharge and if the concentration is ≤ 0.3 mg/l, the following formula shall be used to determine the maximum hourly flow authorized by the permit, up to the maximum of 22,000 gpd: maximum Instantaneous Flow (gal/hour) = 1,585/(# mg/l TRC).
8. Sampling must be conducted while the life support system is recirculating the pool/tank water and no later than 30 minutes prior to initiating a discharge.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

6.1 All samples shall be collected, handled, and analyzed in accordance with the methods approved under 40 CFR 136, unless another method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5. To determine compliance with limits and conditions established in this permit, monitoring must be performed using sufficiently-sensitive methods approved pursuant to 40 CFR 136 for the analysis of pollutants having approved methods under that part, unless a method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5.

6.2 All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.

6.3 The term Minimum Level ("ML") refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit ("MDL"). MLs may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by the laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor of 3. The MLs specified in Section 5 Tables A - O. represent the minimum concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Tables A – O. Analyses for these parameters must include check standards within ten percent of the specified ML or calibration points equal to or less than the specified ML.

6.4 The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible, consistent with the requirements of this Section of the permit.

6.5 Analyses for which quantification was verified to be below a ML, including non-detect, shall be reported as "less than the [ML]" where '[ML]' is the numerical value equivalent to the ML for that analysis on the DMR. Analytical results indicating that a parameter was not present at a concentration equal to or greater than the ML specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions that require calculations. The Permittee shall attach documentation demonstrating the ML of the analysis as an attachment to the DMR.

6.6 It is a violation of this permit for a Permittee or his/her designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed.

6.7 Analyses required under this permit shall be performed in accordance with Conn. Gen. Stat. Section 19a-29a. An "environmental laboratory", as that term is defined in the referenced section, that is performing analyses required by this permit, shall be registered and have certification acceptable to the Commissioner, as such registration and certification is necessary.

SECTION 7: AQUATIC TOXICITY TESTING

7.1 **ACUTE TESTING REQUIREMENTS.** The Permittee shall conduct acute aquatic toxicity testing for DSN 001, 003, and 009 as follows:

7.1.1 **TEST METHOD**: Acute aquatic toxicity shall be performed as prescribed in the reference document *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA-821-R-02-012), or the most current version, with any exceptions or clarifications noted below.

7.1.2 **SAMPLE COLLECTION AND HANDLING:**

7.1.2.1 Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 0-6 °C until aquatic toxicity testing is initiated.

7.1.2.2 Effluent samples shall not be dechlorinated, filtered, or modified in any way prior to testing for acute aquatic toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.

7.1.2.3 Tests for acute aquatic toxicity shall be initiated within 36 hours of sample collection.

7.1.3 **TEST SPECIES AND TEST DURATION:** Monitoring for aquatic toxicity to determine compliance with the acute toxicity limits in this permit shall be conducted as follows:

7.1.3.1 For when salinity of the wastewater at time of discharge is 20 ppt or less

7.1.3.1.1 For 48-hours utilizing neonatal *Daphnia pulex* (less than 24-hours old) if salinity.

7.1.3.1.2 For 48-hours utilizing larval *Pimephales promelas* (1-14 days old with no more than 24-hours range in age).

7.1.3.2 For when salinity of the wastewater at time of discharge is 21 ppt or more

7.1.3.2.1 48-hours utilizing neonatal *Mysidopsis bahia* (1-5 days old with no more than 24-hours range in age).

7.1.3.2.2 For 48-hours utilizing larval *Cyprinodon variegatus* (1-14 days old with no more than 24-hours range in age).

7.1.4 **ACUTE ENDPOINT:** Survival at 48-hours measured by LC_{50}.

7.1.5 **TEST CONDITIONS:**

7.1.5.1 Tests for acute aquatic toxicity shall be conducted as prescribed for static non-renewal tests.

7.1.5.2 Definitive (multi-concentration) testing, with LC50 as the endpoint, shall be conducted to determine compliance with limits on acute aquatic toxicity and monitoring conditions and shall incorporate, at a minimum, the following effluent concentrations: 100%, 50%, 25%, 12.5%, 6.25%, and 3%.

7.1.5.3 For *Daphnia pulex* and *Pimephales promelas*: Synthetic freshwater prepared with deionized water adjusted to a hardness of 50 mg/L (±5 mg/L) as $CaCO_3$ shall be used as dilution water.

7.1.5.4 For tests utilizing *Mysidopsis bahia* and *Cyprinodon variegatus*: Aquatic toxicity tests with saltwater organisms shall be conducted at a salinity of 25 parts per thousand (±2 parts per thousand).

7.1.5.4.1 Synthetic seawater for use as dilution water or controls shall be prepared with deionized water and artificial sea salts as described in EPA/821-R-02-012.

7.1.5.4.2 If the salinity of the source water is more than 5 parts per thousand higher, or lower than the culture water used for rearing the organisms, a second set of controls matching the salinity of the culture water shall be added to the test series. Test validity shall be determined using the controls adjusted to match the source water salinity.

7.1.5.4.3 Salinity adjustment that may be required in tests with saltwater organisms shall utilize the minimum amount of synthetic hypersaline brine (not to exceed 100 parts per thousand) or dilute (2 parts per thousand) synthetic seawater necessary to achieve the required salinity.

7.1.5.4.4 The actual effluent concentrations in definitive tests with saltwater organisms shall be used in calculating test results.

7.1.5.5 For tests utilizing *Mysidopsis bahia* and *Cyprinodon variegatus*: All effluent concentrations and the control(s) used in the test shall have the same salinity. If the effluent requires salinity adjustment to a standard salinity, this shall be accomplished by adding a minimum amount of commercial sea salts as described in EPA-821-R-02-012.

7.1.5.6 *Mysidopsis bahia* shall be fed during the tests. All other organisms shall not be fed.

7.1.5.7 For tests using *Daphnia pulex* and *Pimephales promelas*: Copper nitrate shall be used as the reference toxicant. For tests utilizing *Mysidopsis bahia* and *Cyprinodon variegatus*; Sodium lauryl sulfate or sodium dodecyl sulfate shall be used as the reference toxicant.

7.1.5.8 Dissolved oxygen, pH, and temperature shall be measured in the control and in all test concentrations at the beginning of the test, daily thereafter, and at test termination.

7.1.5.9 Specific conductance, pH, salinity, alkalinity, hardness, and total residual chlorine shall be measured in the undiluted effluent sample and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination.

7.1.6 **CHEMICAL ANALYSIS:** All effluent samples used in the acute toxicity test, including salinity adjusted effluent samples, if salinity adjustment is required, shall at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 5 Table B, E, and L and Section 6.1 for the parameters identified on Section 5 Table B, E, and L of the permit.

7.1.7 **TEST ACCEPTABILITY CRITERIA:** For the test results to be acceptable, control survival must equal or exceed 90%. If the laboratory control fails to meet test acceptability criteria for either of the test organisms at the end of the respective test period, then the test is considered invalid and the test must be repeated with a newly collected sample in accordance with Section 9.4.

7.1.8 **TEST COMPLIANCE:** Compliance with limits on Acute Toxicity shall be determined as follows:

7.1.8.1 For limits expressed as a minimum LC50 value, compliance shall be demonstrated when the results of a valid definitive acute aquatic toxicity test indicates that the LC50 value for the test is greater than the acute toxicity limit.

7.1.9 **REPORTING:** Results of acute toxicity monitoring shall be documented on an ATMR and reported to the Commissioner by the last day of the month following the month in which samples are collected in accordance with Section 8.2 of this permit. The report shall include the items identified in Section 8.2 of this permit. Endpoints to be reported are: 48-hour LC50 and NOAEL.

SECTION 8: REPORTING REQUIREMENTS

8.1 The results of chemical analyses and any aquatic toxicity test required by this permit shall be submitted electronically using NetDMR. Monitoring results shall be reported at the monitoring frequency specified in this permit. Any monitoring required more frequently than monthly shall be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136, or another method required for an industry-specific waste stream under 40 CFR subchapter N, or other methods approved by the Commissioner, shall also be included on the DMR, or as an attachment, if necessary, and the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Commissioner in the permit. All aquatic toxicity reports shall also be included as an attachment to the DMR. A report shall also be included with the DMR which includes a detailed explanation of any violations of the limitations specified. DMRs, attachments, and reports, shall continue to be submitted electronically in accordance with Section 8.4 below. However, if the DMRs, attachments, and reports are required to be submitted in hard copy form, they shall be received at this address by the last day of the month following the month in which samples are collected:

Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement Division (Attn: DMR Processing)
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

8.2 The ATMR associated with aquatic toxicity monitoring shall include all applicable items identified in Section 12 of EPA-821-R-02-012 and in Section 10 of EPA-821-R-02-013 (Freshwater) or EPA-821-R-02-014 (Saltwater), including complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC_{50} values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the 30 consecutive operating days prior to sample collection. The ATMR shall be submitted electronically as an attachment to the DMR and via email to: DEEP.IndustrialWETReports@ct.gov. The ATMR required by Sections 5 and 7 shall be received at this address by the last day of the month following the month in which the samples are collected.

8.3 If this permit requires monitoring of a discharge on a calendar basis (e.g., monthly, quarterly, etc.), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating no discharge has occurred using NODI code "C", For those permittees whose required monitoring is discharge dependent (e.g., per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

8.4 NetDMR Reporting Requirements:

The Permittee shall report electronically using NetDMR, a web-based tool that allows permittees to electronically submit DMRs and other required reports through a secure internet connection. The Permittee and/or the signatory authority shall electronically submit DMRs required under this permit to the Commissioner using NetDMR in satisfaction of the DMR submission requirements of Sections 5, 6, and 9 of this permit. All sampling and monitoring records required under the permit, including any monitoring conducted more frequently than monthly or any additional monitoring conducted in accordance with 40 CFR 136, shall be submitted to the Commissioner as an electronic attachment to the DMR in NetDMR. The Permittee shall also electronically file any written report of noncompliance described in Section 9 of this permit as an attachment in NetDMR. DMRs shall be submitted electronically to the Commissioner no later than the last day of the month following the completed reporting period. NetDMR is accessed from: http://www.epa.gov/netdmr.

SECTION 9: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

9.1 *Noncompliance Notifications:*

9.1.1 In accordance with Section 22a-430-3(j)(8), 22a-430-3(j)(11)(D), 22a-430-3(k)(4), and 22a-430-3(i)(3) of the RSCA, the Permittee shall notify the Commissioner of the following actual or anticipated noncompliance with the terms or conditions of this permit within two hours of becoming aware of the circumstances. All other actual or anticipated violations of the permit shall be reported to the Commissioner within 24 hours of becoming aware of the circumstances:

9.1.1.1 A noncompliance that is greater than two times an effluent limitation;

9.1.1.2 A noncompliance of any minimum or maximum daily limitation or excursion beyond a minimum or maximum daily range;

9.1.1.3 Any condition that may endanger human health or the environment, including but not limited to noncompliance with whole effluent toxicity WET limitations;

9.1.1.4 Any condition that may endanger the operation of a POTW, including sludge handling and disposal;

9.1.1.5 A failure or malfunction of monitoring equipment used to comply with the monitoring requirements of this permit;

9.1.1.6 Any actual or potential bypass of the Permittee's collection system or treatment facilities; or

9.1.1.7 Expansions or significant alterations of any wastewater collection, treatment facility, or its method of operation for the purpose of correcting or avoiding a permit violation.

9.1.2 Notifications shall be submitted via the Commissioner's online Noncompliance Notification Form: https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements.

9.1.3 Within five days of any notification of noncompliance in accordance with Sections 9.1.1.1 through 9.1.1.6 of this permit, the Permittee shall submit a follow-up report using the Commissioner's online Noncompliance Follow-up Report Form: https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements.

The follow-up report shall contain, at a minimum, the following information: (i) A description of the noncompliance and its cause; (ii) the period of noncompliance, including exact dates and times; (iii) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (iv) steps taken or planned to correct the noncompliance and reduce, eliminate and prevent recurrence of the noncompliance.

9.1.4 Within 30 days of any notification of facility modifications reported in accordance with Section 9.1.1.7 of this permit, the Permittee shall submit a written follow-up report by submitting a "Facility and Wastewater Treatment System Modification Request for Determination" for the review and approval of the Commissioner. The report shall fully describe the changes made to the facility and reasons therefor.

9.1.5 Notification of an actual or anticipated noncompliance or facility modification does not stay any term or condition of this permit.

9.2 In accordance with Section 22a-430-3(j)(11)(E) of the RSCA, the Permittee shall notify the Commissioner within 72 hours and in writing within 30 days when he or she knows or has reason to believe that the concentration in the discharge of any substance listed in the application, or any toxic substance as listed in Appendix B or D of RSCA Section 22a-430-4, has exceeded or will exceed the highest of the following levels: (1) One hundred micrograms per liter; (2) Two hundred micrograms per liter for acrolein and acrylonitrile, five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony; (3) An alternative level specified by the Commissioner, provided such level shall not exceed the level which can be achieved by the Permittee's treatment system; or (4) A level two times the level specified in the Permittee's application.

72-hour initial notifications shall be submitted via the Commissioner's online Noncompliance Notification Form. 30-day follow-up reports shall be submitted via the Commissioner's online Noncompliance Follow-up Report Form. The Forms are available at the Commissioner's website, here: https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements.

9.3 In addition to any other written reporting requirements, the Permittee shall report any instances of noncompliance with this permit with its DMR. Such reporting shall be due no later than the last day of the month following the reporting period in which the noncompliant event occurred. The information provided in the DMR shall include, at a minimum: the type of violation, the duration of the violation, the cause of the violation, and any corrective action(s) or preventative measure(s) taken to address the violation.

9.4 If any sample analysis indicates that an aquatic toxicity effluent limitation in Section 5 of this permit has been exceeded, or that the test was invalid, another sample of the effluent shall be collected and tested for aquatic toxicity and associated chemical parameters, as described above in Sections 5 and 7. The exceedance or invalid test shall be reported to Commissioner in accordance with Section 9.1. The results shall be submitted to the Commissioner within 30 days of the exceedance or invalid test. The results and the associated ATMR shall be reported in accordance with Sections 5 and 8.2 of the permit. Results of all tests, whether valid or invalid, shall be reported. If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the month's DMR.

9.5 If any two consecutive test results or any three test results in a twelve-month period indicate that an aquatic toxicity limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall also submit a report, for the review and written approval of the Commissioner, which describes in detail the steps taken or that shall be taken to eliminate the toxic impacts of the discharge on the receiving water and it shall also include a proposed schedule for implementation. Such report shall be submitted in accordance with the timeframe set forth in Section 22a-430-3(j)(10)(C) of the Regs. Conn. State Agencies. The Permittee shall implement all actions in accordance with the approved report and schedule.

SECTION 10: COMPLIANCE SCHEDULE

10.1 **Ammonia (as N) Final Effluent Limits**

The Permittee shall achieve compliance with the Ammonia (as N) limitations for DSNs 001, 002, 003, 004, 008, 010, and 011 as soon as possible but in no event later than **four years and 11 months** after the effective date of this permit in accordance with the following:

10.1.1 **Qualified Professional.** On or before **90 days** after the effective date of this permit, the Permittee shall notify the Commissioner in writing of a qualified professional retained to prepare the documents and implement or oversee the actions required under Section 10.1 of this permit. The professional shall be a professional engineer licensed to practice in Connecticut.

The professional shall be retained until all actions required under this permit section have been completed. The Permittee shall notify the Commissioner in writing within **10 days** of retaining an alternative professional.

If requested, the Permittee shall submit a description of a professional's education, experience and training to the Commissioner within ten days of such request. The Commissioner may determine at any time that a previously accepted professional is no longer acceptable.

10.1.2 **Scope of Study.** On or before **90 days** after the effective date of this permit, the Permittee shall submit, for the Commissioner's review, a scope of study and schedule for completing the analysis and final report required by Section 10.1.3.

10.1.3 **Alternative Analysis.** On or before **one year and six months** after the effective date of the permit, the Permittee shall submit for the Commissioner's review and approval, a comprehensive report evaluating options for achieving compliance with the final effluent limits. Such report shall:

10.1.3.1 Evaluate alternative actions to achieve compliance with the final effluent limitations in DSNs 001, 002, 003, 004, 008, 010, and 011, but not limited to, pollutant source reduction; process changes/innovations; chemical substitutions; recycle and zero discharge systems; water conservation measures; and other internal, tertiary, and end-of-pipe treatment technologies;

10.1.3.2 Provide a detailed schedule for performing each alternative. At the minimum, the schedule shall address planning, design, permitting, and construction phases;

10.1.3.3 List all permits and approvals required for each alternative;

10.1.3.4 Propose a preferred alternative or combination of alternatives with supporting justification; and

10.1.3.5 Provide a detailed plan and schedule to perform all actions to implement the preferred alternative. The schedule shall include the timeline associated with the planning, design, permitting, construction, and operation of the preferred alternative.

10.1.4 **Implementation.** The Permittee shall perform the approved actions in accordance with the approved schedule. Within **14 days** after completing such actions, the Permittee shall certify to the Commissioner in writing that the actions have been completed as reviewed/approved.

10.1.5 **Final Plans and Specifications.** The Permittee shall submit final plans and specifications of the selected alternative to the Commissioner. At a minimum, the final plans and specifications shall include detailed drawings to scale of all collection, treatment and disposal facilities, including all individual unit operations and their interconnection, and illustrative drawings of process controls, piping, instrumentation, chemical feed equipment and alarms.

10.2 **pH Final Effluent Limits**

The Permittee shall achieve compliance with the pH limitations in DSN 003 as soon as possible but in no event later than **four years and 11 months** after the effective date of this permit in accordance with the following:

10.2.1 **Qualified Professional.** On or before **90 days** after the effective date of this permit, the Permittee shall notify the Commissioner in writing of a qualified professional retained to prepare the documents and implement or oversee the actions required under Section 10.2 of this permit. The professional shall be a professional engineer licensed to practice in Connecticut.

The professional shall be retained until all actions required under this permit section have been completed. The Permittee shall notify the Commissioner in writing within **10 days** of retaining an alternative professional.

If requested, the Permittee shall submit a description of a professional's education, experience and training to the Commissioner within ten days of such request. The Commissioner may determine at any time that a previously accepted professional is no longer acceptable.

10.2.2 **Scope of Study.** On or before **90 days** after the effective date of this permit, the Permittee shall submit for the Commissioner's review a plan and schedule to complete the report specified in Section 10.2.2 of this permit.

10.2.2 **Alternative Analysis.** On or before **one year and 6 months** after the effective date of the permit, the Permittee shall submit for the Commissioner's review a comprehensive and thorough report which describes and evaluates alternative actions which may be taken by the Permittee to achieve compliance with final effluent limits. Such report shall:

10.2.2.1 Evaluate alternative actions to achieve compliance with the pH limitations in DSN 003 including, but not limited to, pollutant source reduction, process changes/innovations, chemical substitutions, recycle and zero discharge systems, water conservation measures, and other internal and/or end-of-pipe treatment technologies;

10.2.2.2 State in detail the most expeditious schedule for performing each alternative;

10.2.2.3 Propose a preferred alternative or combination of alternatives with supporting justification; and

10.2.2.4 A detailed program and schedule to perform all actions required by the preferred alternative. The schedule shall include the timeline associated with the planning, design, permitting, construction, and operation of the preferred alternative.

10.2.4 **Implementation.** The Permittee shall perform the approved actions in accordance with the approved schedule. Within **14 days** after completing such actions, the Permittee shall certify to the Commissioner in writing that the actions have been completed as reviewed/approved.

10.2.5 **Final Plans and Specifications.** The Permittee shall submit final plans and specifications of the selected alternative to the Commissioner. At a minimum, the final plans and specifications shall include detailed drawings to scale of all collection, treatment and disposal facilities, including all individual unit operations and their interconnection, and illustrative drawings of process controls, piping, instrumentation, chemical feed equipment and alarms.

10.3 The Permittee shall submit to the Commissioner semi-annual status reports on June 30th and December 31st of each year, beginning **60 days** after the date of concurrence of the reports referenced in Sections 10.1.2 and 10.2.2 above. Status reports shall include the following:

10.3.1 A description of the work performed by the Permittee during the past six months towards compliance with Section 10.1.2 and 10.2.2 above;

10.3.2 An assessment of whether the Permittee is on schedule to comply with the compliance deadline;

10.3.3 If the Permittee is not on-track to comply with the compliance deadline, the steps the Permittee will take to comply.

10.5 The Permittee shall use best efforts to submit to the Commissioner all documents required by this section of the permit in a complete and approvable form. If the Commissioner notifies the Permittee that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and the Permittee shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within thirty days of the Commissioner's notice of deficiencies. In approving any document or other action under this Compliance Schedule, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this section of the permit. Nothing in this paragraph shall excuse noncompliance or delay.

10.6 **Dates.** The date of submission to the Commissioner of any document required by this section of the permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this section of the permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this section of the permit means calendar day. Any document or action which is required by this section only of the permit, to be submitted, or performed, by a date which falls on, Saturday, Sunday, or, a legal Connecticut or federal holiday, shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or legal Connecticut or federal holiday.

10.7 **Notification of noncompliance.** Except as otherwise provided in this permit, in the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates that may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.

10.8 **Notice to Commissioner of changes.** Within fifteen (15) days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.

10.9 **Submission of documents.** Any document, other than a discharge monitoring report, required to be submitted to the Commissioner under this section of the permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

DEEP.IndustrialNPDESCompliance@ct.gov with the subject line "Permittee Name - Permit #"

This permit is hereby issued on

_____

JENNIFER PERRY, P.E.
Bureau Chief

JP/ PB