

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

**Shore Cliff - Deaconess Retirement Home**

is authorized to discharge from the facility located at

**Wastewater Treatment Plant  
14 Cliff Avenue  
Gloucester, MA 01930**

to receiving water named

**Massachusetts Bay (Atlantic Ocean)**

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

This permit shall become effective on **60 days after signature.**

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

This permit supersedes the permit issued on September 29, 1999.

This permit consists of 8 pages in Part I including effluent limitations, monitoring requirements, Attachments A and B and 35 pages in Part II including General Conditions and Definitions.

Signed this 9<sup>th</sup> day of June, 2005

Linda M. Murphy, Director  
Office of Ecosystem Protection  
Environmental Protection Agency  
Boston, MA

Director  
Division of Watershed Management  
Department of Environmental Protection  
Commonwealth of Massachusetts  
Boston, MA

PART I

<p>A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number <b>001</b>, treated effluent to Massachusetts Bay (Atlantic Ocean). Such discharges shall be limited and monitored as specified below.</p>														
<u>EFFLUENT CHARACTERISTIC</u>					<u>EFFLUENT LIMITS</u>					<u>MONITORING REQUIREMENTS</u>				
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE <sup>3</sup> TYPE							
FLOW	*****	*****	0.004 MGD <sup>2</sup>	*****	Report MGD	CONTINUOUS	RECORDER							
BOD <sub>5</sub> <sup>4</sup>	1.0 lbs/Day	1.5 lbs/Day	30 mg/l	45 mg/l	Report mg/l <sup>1</sup>	1/MONTH	24-HOUR COMPOSITE <sup>5</sup>							
TSS <sup>4</sup>	1.0 lbs/Day	1.5 lbs/Day	30 mg/l	45 mg/l	Report mg/l <sup>1</sup>	1/MONTH	24-HOUR COMPOSITE <sup>5</sup>							
pH RANGE <sup>1</sup>	6.5 - 8.5 SU SEE PERMIT PAGE 4 OF 8, PARAGRAPH I.A.1.b.									1/DAY	GRAB			
TOTAL CHLORINE RESIDUAL <sup>1,6,7</sup>	*****	*****	7.5 ug/l	*****	13 ug/l	1/DAY	GRAB							
FECAL COLIFORM <sup>1,6</sup>	*****	*****	88cfu/100 ml	*****	260cfu/100 ml	1/WEEK	GRAB							
ENTEROCOCCI	*****	*****	*****	*****	Report cfu/100 ml	1/Month	GRAB							
WHOLE EFFLUENT TOXICITY SEE FOOTNOTES 8,9 and 10	Acute LC <sub>50</sub> = 100% or greater Chronic C-NOEC = 100% or greater									1/YEAR	24-HOUR COMPOSITE <sup>5</sup>			

All effluent samples shall be collected after chlorination prior to discharge.

## Footnotes:

1. Required for State Certification.
2. Report total flow for each operating day.
3. All required effluent samples shall be collected at the point specified in Permit . Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. All samples shall be 24 hour composites unless specified as a grab sample in 40 CFR §136.
4. Sampling required for influent and effluent.
5. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during A 24 hour period (e.g. 0700 Monday - 0700 Tuesday).
6. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units per 100 ml, nor shall they exceed 400 cfu per 100 ml as a daily maximum. This monitoring shall be conducted concurrently with the TRC sampling described below.
7. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G, or USEPA Manual of Methods of Analysis of Water and Wastewater, Method 330.5. One of these methods must be used to determine total residual chlorine. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring report.

The final permit limits of 7.5 ug/l (monthly average) and 13 ug/l (daily maximum ) will be effective two years from the effective date of the permit. In the interim, a maximum daily limit of 1 mg/l will apply.

8. The permittee shall conduct chronic and modified acute toxicity tests one time per year. The chronic test may be used to calculate the LC<sub>50</sub> at the 48 hour exposure interval. The permittee shall test the Inland Silverside (*Menidia beryllina*). Toxicity test samples shall be collected during the second week of the month September. The test results shall be submitted by the last day of the month following the completion of the test. The results are due October 31<sup>st</sup>. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in	Submit Results By:	Test Species	Limits
September	October 31 <sup>st</sup>	Inland Silverside See Attachment A	LC <sub>50</sub> = 100% or greater C-NOEC = 100% or greater

After submitting **two years** and a **minimum** of two consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

9. The LC<sub>50</sub> is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent shall cause no more than a 50% mortality rate.
  
10. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "100% or greater" limit is defined as a sample

which is composed of 100% (or greater) effluent.

Part I.A.1. (Continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time, unless these values are exceeded as a result of an approved treatment process.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
- f. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
- g. The results of sampling for any parameter above its required frequency must also be reported if performed by EPA approved methods.

2. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

3. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

**B. UNAUTHORIZED DISCHARGES**

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfalls listed in Part I A.1. of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

### **C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM**

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

#### **1. Maintenance Staff**

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

#### **2. Preventative Maintenance Program**

The permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

#### **3. Alternate Power Source**

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

### **D. SLUDGE CONDITIONS**

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.
3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.
  - a. Land application - the use of sewage sludge to condition or fertilize the soil
  - b. Surface disposal - the placement of sewage sludge in a sludge only landfill

- c. Sewage sludge incineration in a sludge only incinerator
- 4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.
- 5. The permittee shall use and comply with the attached compliance guidance document (see Attachment B) to determine appropriate conditions. Appropriate conditions contain the following elements.
  - General requirements
  - Pollutant limitations
  - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
  - Management practices
  - Record keeping
  - Monitoring
  - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

- 6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

- 7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.
- 8. The permittee shall submit an annual report containing the information specified in the guidance by February 19. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report by February 19 containing the following information:
  - Name and address of contractor responsible for sludge disposal
  - Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

**E. MONITORING AND REPORTING**

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency  
Water Technical Unit (SEW)  
P.O. Box 8127  
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection  
Northeast Regional Office  
Bureau of Resource Protection  
1 Winter Street  
Boston, MA 02108

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
Surface Water Discharge Permit Program  
627 Main Street, 2nd Floor  
Worcester, Massachusetts 01608

**F. STATE PERMIT CONDITIONS**

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force



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and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.