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),

Town of Deerfield

is authorized to discharge from the facility located at

South Deerfield Wastewater Treatment Plant
Route 116
South Deerfield, Massachusetts 01373

to the receiving water named **Connecticut River**

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

This permit will become effective on April 1, 2007.

This permit and the authorization to discharge expire at midnight on March 31, 2012.

This permit supersedes the permit issued on August 3, 2000.

This permit consists of 11 pages in Part I including effluent limitations and monitoring requirements, Part II including General Conditions and Definitions, and Attachment A.

Signed this 1st day of April, 2007

/s/ SIGNATURE ON FILE

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. A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **001**. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Units	Discharge Limitations			Monitoring Requirements	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[2]
Flow[1]	mgd mgd	0.85 Report	****** ******	****** Report	continuous	recorder
BOD_5[3]	mg/l lbs/day	30 213	45 319	Report Report	1/week 1/week	24-hour composite[4] 24-hour composite
Total Suspended Solids[3]	mg/l lbs/day	30 213	45 319	Report Report	1/week 1/week	24-hour composite 24-hour composite
pH[5]	su	6.5 – 8.3			1/day	Grab
Fecal Coliform[5,6] (April 1 – October 31)	cfu/100ml	200	******	400	1/week	Grab
E. coli[5] (April 1 – October 31)	cfu/100ml		******	Report	1/month	Grab
Total Residual Chlorine[7,8,9] (April 1 – October 31)	mg/l	*****	******	1.0	1/day	Grab
Ammonia Nitrogen as N	mg/l	Report	******	******	1/quarter	24-hour composite
Total Kjeldahl Nitrogen	mg/l	Report	******	******	1/quarter	24-hour composite
Nitrite + Nitrate	mg/l	Report	******	******	1/quarter	24-hour composite
Whole Effluent Toxicity[10,11]	%	******	******	$LC_{50} \geq 50$[12]	2/year	24-hour composite

Footnotes:

1. The average monthly flow limit is an annual average limit which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow that is calculated from that month and the previous 11 months. In addition, report the actual average monthly flow and maximum daily flow for each month.

2. All sampling shall be representative of the influent and of the effluent that is discharged through outfall 001 to the Connecticut River. A routine sampling program shall be developed in which samples are taken at the same location, same time, and same days of every month. Any deviations from the routine sampling program shall be documented in correspondence appended to the applicable discharge monitoring report that is submitted to EPA. 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.

3. Sampling required for influent and effluent.

4. 24-hour composite samples will consist of at least twenty four (24) grab samples taken during a consecutive 24-hour period (e.g. 7:00 am Monday to 7:00 am Tuesday) and combined proportional to flow.

5. Required for State Certification.

6. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units (cfu) per 100 ml, nor shall they exceed 400 cfu per 100 ml as a daily maximum. The grab sample for fecal coliform shall be taken at the same time as a Total Residual Chlorine grab sample.

7. Whenever more than one grab sample is taken per day, the monthly DMR shall include an attachment documenting the individual grab sample results for that day, including the date and time of each sample, and a summary of any operational modifications implemented in response to sample results. All test results shall be used in the calculation and reporting of the monthly average and maximum daily data submitted on the DMR (see Part II. Section D.1.d.(2)).

8. The minimum level (ML) for Total Residual Chlorine (TRC) is defined as 20 ug/l 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 Methods for Chemical Analysis of Water and Wastes, Method 330.5. One of these methods must be used

to determine TRC. The ML is not the minimum level of detection, but rather the lowest point on the curve used to calibrate the test equipment for the pollutant of concern. If EPA approves a more sensitive method of analysis for TRC, the permit may be reopened to require the use of the new method with a corresponding lower ML. When reporting sample data at or below the ML, see the latest EPA Region NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) for guidance.

9. Chlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced levels of chlorine occurred.

10. The permittee shall conduct acute toxicity tests 2 times per year. The permittee shall test the daphnid, *Ceriodaphnia dubia*, only. The tests must be performed in accordance with the Toxicity Test Procedure and Protocol (**Attachment A)** and the schedule in the table below.

Test Dates Second Week in	Submit Results by:	Test Species
June September	July 31 October 31	Daphnid (*Ceriodaphnia dubia*)

After submitting two years 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.

11. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in **Attachment A (Toxicity Test Procedure and Protocol**) **Section IV., DILUTION WATER** in order to obtain an individual approval for use of an alternate dilution water, or the permittee shall follow the Self-Implementing Alternative Dilution Water Guidance which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance is found in Attachment G of NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs) which is sent to all permittees with their annual set of DMRs and may also be found on the EPA, Region I web site at http://www.epa.gov/region1/enforcementandassistance/dmr2005.pdf. If this guidance is revoked, the permittee shall revert to obtaining individual approval as outlined in **Attachment A**. Any modification or revocation to this guidance will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

12. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 50% limit means that a sample of 50% effluent shall cause no more than a 50% mortality rate.

PART I.A.1. (cont.)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

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

c. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.

e. The 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. Sample results using EPA approved methods for any parameter above its required frequency must also be reported.

g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

h. The permittee is required, when the average annual flow in any calendar year exceeds 80 % of the facility's design flow, to submit a report to Mass DEP on how the permittee will remain in compliance with the limitations in the permit, especially flow.

2. The WWTF must provide notice to the Director as soon as possible of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category discharging process water; and

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, notice shall include information on:

(i) the quantity and quality of effluent introduced into the POTW; and

(ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

a. Pollutants introduced into the POTW's by a non-domestic source (user) shall not pass

through the POTW or interfere with the operation or performance of the treatment works.

b. If, within 30 days after notice of an interference or pass through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

4. 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.

5. Numerical Effluent Limitations for Toxicants

a. EPA or the MassDEP 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

PART I. B. UNAUTHORIZED DISCHARGES

The permit only authorizes discharges in accordance with the terms and conditions of this permit and only from the outfall listed in PART 1 A.1. of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) from any portion of the collection system owned and operated by the permittee 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). Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes DEP Regional Office telephone numbers). The reporting form and instruction for its completion may be found on-line at http://www.mass.gov/dep/water/approvals/surffms.htm#sso.

PART I. 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. The permittee shall meet the following conditions for those portions of the collection system which it owns and operates.

1. Maintenance Staff

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

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. Infiltration/Inflow Control

The permittee shall each develop and implement a plan to control infiltration and inflow (I/I) to its own sewerage system. The plans shall be submitted to EPA and MassDEP **within six months of the effective date of this permit** (see page 1 of this permit for the effective date) and shall describe the permittee's programs for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow. The plan shall include:

i) An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.

ii) An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.

iii) Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.

iv) An educational public outreach program for all aspects of I/I control, particularly private inflow.

By **March 31** the permittee shall submit an annual summary report of all actions taken to minimize I/I during the previous calendar year. The summary report shall, at a minimum, include:

i) A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.

ii) Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.

iii) A map with areas identified for I/I-related investigation/action in the coming year.

iv) A calculation of the annual average I/I, the maximum month I/I for the reporting year.

v) A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to PART 1. C. UNAUTHORIZED DISCHARGES of this permit.

PART I. D. ALTERNATIVE 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).

PART I. E. 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 (e.g. 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 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:

Dry metric tons/year	Monitoring Frequency
less than 290	1/year
290 to less than1500	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.

PART I. F. MONITORING AND REPORTING

1. Reporting

a. 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.**

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

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

c. Signed and dated Discharge Monitoring Report Forms and all other reports, excluding toxicity test reports, required by this permit shall be submitted to the State at:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Western Regional Office
436 Dwight Street
Springfield, MA 01103

d. Signed and dated Discharge Monitoring Reports 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, MA 01608

PART I. G. STATE PERMIT CONDITIONS

1. This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (Mass 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 Mass DEP pursuant to M.G.L. Chap. 21, §43.

2. 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 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.