



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ME0100528
FILE

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

June 9, 2004

Mr. Kristopher Hughes
Town of Pittsfield
Pittsfield Wastewater Treatment Facility
8 Park Street
Pittsfield, Maine 04967

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100528
Maine Waste Discharge License (WDL) Application #W001477-5L-F-R
Final Permit/License

Dear Mr. Hughes:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. This permit/license for your facility replaces National Pollutant Discharge Elimination System (NPDES) permit #ME0100528, last issued for your facility by the U.S. Environmental Protection Agency (USEPA) on September 29, 1999. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

We would like to make you aware of the fact that your monthly Discharge Monitoring Reports (DMRs) may not reflect the revisions in this permitting action for several months however, you are required to report applicable test results for parameters required by this MEPDES permit/WDL that do not appear on the DMR. Please see attached April 2003 O&M Newsletter article regarding this matter.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688
RAY BLDG., HOSPITAL ST.

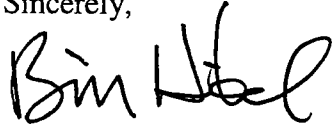
BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 764-1507

If you have any questions regarding the matter, please feel free to call me at 287-7659.

Sincerely,

A handwritten signature in black ink that reads "Bill Hinkel". The signature is written in a cursive style with a large, prominent "B" and "H".

Bill Hinkel
Division of Water Resource Regulation
Bureau of Land and Water Quality

Enc.

cc: Denise Behr, DEP/CMRO
Ted Lavery, USEPA
File



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

TOWN OF PITTSFIELD) MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS) ELIMINATION PERMIT SYSTEM
PITTSFIELD, SOMERSET COUNTY) AND
#ME0100528) WASTE DISCHARGE LICENSE
#W001477-5L-F-R APPROVAL) RENEWAL

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, §1251, et seq., and Maine Law 38 M.R.S.A., §414-A et seq., and applicable regulations, the Department of Environmental Protection (Department) has considered the application of the TOWN OF PITTSFIELD, with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Waste Discharge License (WDL) #W001477-5L-D-R, which was issued on December 17, 1998 and expired on December 17, 2003. The 12/17/98 WDL and a 7/21/00 administrative modification permitted the monthly average discharge of up to 1.5 million gallons per day (MGD) of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) to a palustrine scrub-shrub wetland as a conveyance to the Sebasticook River, Class C, in Pittsfield, Maine.

On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program, and permit #ME0100528 (same as NPDES permit number) will be utilized as the primary reference number.

PERMIT SUMMARY

This permitting action is similar to the 12/17/98 licensing action and the 7/21/00 administrative modification in that it is:

1. Carrying forward the monthly average discharge flow limitation of 1.5 MGD and reporting requirement for the daily maximum discharge flow;
2. Carrying forward the monthly average, weekly average and daily maximum technology-based concentration limits for biochemical oxygen demand (BOD₅) and total suspended solids (TSS);
3. Carrying forward the daily maximum technology-based concentration limitation for settleable solids;
4. Carrying forward the monthly average and daily maximum water quality-based concentration limits for *Escherichia coli* bacteria; and
5. Carrying forward the minimum monitoring frequency requirements for BOD₅, TSS, settleable solids, *E. coli* bacteria, total residual chlorine (TRC) and pH.

This permitting action is different from the 12/17/98 licensing action and the 7/21/00 administrative modification in that it is:

1. Revising the monthly average, weekly average and daily maximum technology-based mass limits for BOD₅ and TSS;
2. Establishing a requirement for a minimum of 85% removal of BOD₅ and TSS;
3. Eliminating the weekly average concentration reporting requirement for settleable solids;
4. Revising the daily maximum water quality-based concentration limitation and establishing a monthly average technology-based concentration limitation for TRC;
5. Establishing monthly average water quality-based concentration and mass limits for lead based on the facility's toxicity testing results;
6. Revising the pH range limitation;
7. Establishing a chemical-specific (priority pollutant) testing requirement; and
8. Revising the authorization to receive septage from 2,500 gallons to 3,000 gallons per day.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated June 14, 2004, and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, 38 M.R.S.A. §464(4)(F), will be met, in that:
 - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
 - (b) Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;
 - (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and
 - (e) Where a discharge will result in lowering the existing water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the TOWN OF PITTSFIELD to discharge a monthly average flow of up to 1.5 MGD of secondary treated sanitary wastewater to a palustrine scrub-shrub wetland as a conveyance to the Sebasticook River, Class C, in Pittsfield, Maine SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. "Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits," revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. The expiration date of this permit is five (5) years from the date of signature below.

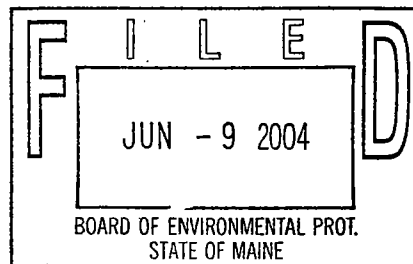
DONE AND DATED AT AUGUSTA, MAINE, THIS 8TH DAY OF JUNE, 2004.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
 DAWN R. GALLAGHER, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 31, 2003
 Date of application acceptance: March 31, 2003



Date filed with Board of Environmental Protection: _____

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period **beginning the effective date of this permit and lasting through permit expiration**, the permittee is authorized to discharge secondary treated sanitary wastewater from **Outfall #001A** to a palustrine scrub-shrub wetland as a conveyance to the Sebastiancook River. Such discharges shall be limited and monitored by the permittee as specified below⁽¹⁾:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements			
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (50050/)	as specified	as specified	as specified	as specified	as specified	as specified	as specified	as specified
BOD ₅ (00310/)	375 lbs./day (26/)	563 lbs./day (26/)	626 lbs./day (26/)	30 mg/L (19/)	45 mg/L (19/)	50 mg/L (19/)	Continuous (99/99/)	Recorder (RC/)
BOD ₅ Percent Removal ⁽²⁾ (81010/)	--	--	--	85% (23/)	--	--	1/Month (01/30/)	Calculate (CA/)
TSS (00530/)	375 lbs./day (26/)	563 lbs./day (26/)	626 lbs./day (26/)	30 mg/L (19/)	45 mg/L (19/)	50 mg/L (19/)	1/Week (01/07/)	Composite (24/)
TSS Percent Removal ⁽²⁾ (81011/)	--	--	--	85% (23/)	--	--	1/Month (01/30/)	Calculate (CA/)
Settleable Solids (00545/)	--	--	--	--	--	0.3 mL/L (23/)	1/Week (01/07/)	Grab (GR/)
<i>E. coli</i> Bacteria ⁽³⁾ (31633/)	--	--	--	142/100 ml ⁽⁵⁾ (13/)	--	949/100 ml (13/)	1/Week (01/07/)	Grab (GR/)
Total Residual Chlorine ⁽⁴⁾ (00665/)	--	--	--	0.1 mg/L (19/)	--	0.13 mg/L (19/)	1/Day (01/01/)	Grab (GR/)
Total Lead (as Pb) (01051/)	0.069 lbs./day (26/)	--	--	8.25 ug/L (28/)	--	--	1/Year (01/1R/)	Grab (GR/)
pH ⁽⁶⁾ (00400/)	--	--	--	--	--	6.0 - 9.0 SU (12/)	2/Week (02/07/)	Grab (GR/)
Chemical-Specific Testing ⁽⁷⁾ (50008/)	--	--	--	--	--	Report ug/L (28/)	1/Year (01/1R/)	Grab (GR/)
Chemical-Specific Testing ⁽⁷⁾ (50008/)	--	--	--	--	--	Report ug/L (28/)	4/Year (04/1R/)	Grab (GR/)

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Pages 6 and 7 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

FOOTNOTES:

1. **Monitoring** – All effluent monitoring shall be conducted at a location following the last treatment unit in the treatment process as to be representative of end-of-pipe effluent characteristics. Any change in sampling location must be approved by the Department in writing. Sampling and analysis must be conducted in accordance with: a) methods approved by 40 Code of Federal Regulations (CFR) Part 136; b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136; or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.
2. **Percent Removal** – The treatment facility shall maintain a minimum of 85 percent removal of both biochemical oxygen demand and total suspended solids for all flows receiving secondary treatment. Compliance with the limitation is based on a twelve-month rolling average. Calendar monthly average percent removal values shall be calculated based on influent and effluent concentrations. The licensee is not required to include monthly average percent removal values in the twelve-month rolling average calculation when the influent concentration for said month(s) is less than 200 mg/L. For the purposes of this permitting action, the twelve-month rolling average calculation is based on the most recent twelve-month period when the influent concentrations are greater than or equal to 200 mg/L. The licensee is required to report the percent removal values on the monthly discharge monitoring report (DMR) and on the DEP "49" form.
3. **Seasonal Limits** – *E. coli* bacteria limits and monitoring requirements are seasonal and apply between May 15 and September 30 of each year. The Department reserves the right to require year-round disinfection to protect the health, safety and welfare of the public.
2. **TRC Monitoring** – Monitoring for TRC is only required when the facility is disinfecting the effluent. For instances when the facility is not disinfecting the effluent with chlorine-based compounds, the facility shall report "NODI-9" for this parameter on the monthly DMR.
5. **Bacteria Reporting** – The monthly average *E. coli* bacteria limitation is a geometric mean limitation and sample results shall be reported as such.
6. **pH Range Limitation**– The pH value of the effluent shall not be lower than 6.0 SU nor higher than 9.0 SU at any time unless these limitations are exceeded due to natural causes. The permittee shall provide oral notification of any exceedence within 24 hours from the time the permittee becomes aware of the circumstances and shall submit a written explanation of the exceedence within 5 days of the time the permittee becomes aware of the circumstances.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

FOOTNOTES:

7. **Chemical-Specific Testing** – Priority pollutant (chemical-specific testing pursuant to Department rule Chapter 530.5) testing is performed on those parameters listed by the USEPA pursuant to Section 307(a) of the Clean Water Act and published at 40 CFR Part 122, Appendix D, Tables II and III.

Beginning the effective date of this permit and lasting through 12 months prior (June 2008) to permit expiration, the permittee shall conduct surveillance level chemical-specific testing at a minimum frequency of once per year in a different calendar quarter each year. **Beginning 12 months prior (June 2008) to permit expiration and lasting through permit expiration**, the permittee shall conduct screening level chemical-specific testing at a minimum frequency of once per calendar quarter for four consecutive calendar quarters.

Chemical-specific testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. Results shall be submitted to the Department within thirty (30) days of the permittee receiving the data report from the laboratory conducting the testing. **For the purposes of DMR reporting, enter a “NODI-9” for NO testing done this monitoring period or “1” for YES, testing done this monitoring period.**

All mercury sampling shall be conducted in accordance with the USEPA’s “clean sampling techniques” found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with USEPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.
3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

SPECIAL CONDITIONS

C. DISINFECTION

If chlorination is used as the means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized followed by a dechlorination system if the imposed total residual chlorine (TRC) limit cannot be achieved by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall provide a TRC concentration that will effectively reduce fecal coliform bacteria levels to or below those specified in Special Condition A, "*Effluent Limitation and Monitoring Requirements*," above.

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade III** certificate pursuant to Title 32 M.R.S.A. §4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

E. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office** such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following address:

Department of Environmental Protection
Bureau of Land and Water Quality
Division of Engineering, Compliance and Technical Assistance
17 State House Station
Augusta, Maine 04333-0017

F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into POTWs by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

SPECIAL CONDITIONS

G. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following.

1. Any introduction of pollutants into the wastewater collection and treatment system from an indirect discharger in a primary industrial category discharging process wastewater; and
2. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:
 - (a) the quality and quantity of wastewater introduced to the wastewater collection and treatment system; and
 - (b) any anticipated impact caused by the change in the quantity or quality of the wastewater to be discharged from the treatment system.

H. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall #001A. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

I. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall develop and maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

On or before November 15, 2004, the permittee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan which conforms to Department guidelines for such plans [*PCS Code 06799*]. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

Once the Wet Weather Management Plan has been approved, the permittee shall review their plan annually and record any necessary changes to keep the plan up to date.

SPECIAL CONDITIONS

J. OPERATION & MAINTENANCE (O&M) PLAN

On or before November 15, 2004, the permittee shall submit to the Department a current written comprehensive Operation & Maintenance (O&M) Plan [*PSC Code 007VA*]. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and USEPA personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the wastewater treatment facility, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

K. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream up to a **maximum of 3,000 gallons per day** of septage, subject to the following terms and conditions:

1. This approval is limited to methods and plans described in the application and supporting documents. Any variations are subject to review and approval prior to implementation.
2. At no time shall the addition of septage cause or contribute to effluent quality violations. If such conditions do exist, the introduction of septage into the treatment process or solids handling stream shall be suspended until effluent quality can be maintained.
3. The permittee shall maintain records which shall include, as a minimum, the following by date: volume of septage received, source of the septage (name of municipality), the hauler transporting the septage, the dates and volume of septage added to the waste water treatment influent and test results.
4. The addition of septage into the treatment process or solids handling stream shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of septage into the treatment process or solids handling stream shall be reduced or terminated in order to eliminate the overload condition.

SPECIAL CONDITIONS

K. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY (cont'd)

5. Septage known to be harmful to the treatment processes shall not be accepted. Wastes which contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation shall be refused.
6. Holding tank waste water shall not be recorded as septage but should be reported in the treatment facility's influent flow.

L. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded; (2) require additional effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
WASTE DISCHARGE LICENSE**

FACT SHEET

Date: June 14, 2004

MEPDES PERMIT: #ME0100528
WASTE DISCHARGE LICENSE: #W001477-5L-F-R

NAME AND ADDRESS OF APPLICANT:

**Town of Pittsfield
Wastewater Treatment Facility
8 Park Street
Pittsfield, Maine 04967**

COUNTY: Somerset

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Pittsfield Wastewater Treatment Facility (WWTF)
McCarthy Road
Pittsfield, Maine 04967

RECEIVING WATER / CLASSIFICATION: Sebasticook River/Class C

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: Mr. Kristopher Hughes
Superintendent
(207) 487-5203

1. APPLICATION SUMMARY

Application: The applicant has applied to the Department for renewal of Waste Discharge License (WDL) #W001477-5L-D-R, which was issued on December 17, 1998, and expired on December 17, 2003. The 12/17/98 WDL and a 7/21/00 administrative modification permitted the monthly average discharge of up to 1.5 MGD of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) to a palustrine scrub-shrub wetland as a conveyance to the Sebasticook River, Class C, in Pittsfield, Maine.

2. PERMIT SUMMARY

- a. Regulatory: On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program that will utilize a permit number of #ME0100528 (same as NPDES permit) as the primary reference number for the Pittsfield WWTF's MEPDES permit. NPDES permit #ME0100528, last issued by the USEPA on September 29, 1999, will be replaced by the final MEPDES permit upon issuance. Once the MEPDES permit has been issued, all terms and conditions of the NPDES become null and void.
- b. Terms and Conditions: **This permitting action is similar to the 12/17/98 licensing action and the 7/21/00 administrative modification in that it is:**
1. Carrying forward the monthly average discharge flow limitation of 1.5 MGD and reporting requirement for the daily maximum discharge flow;
 2. Carrying forward the monthly average, weekly average and daily maximum technology-based concentration limits for biochemical oxygen demand (BOD₅) and total suspended solids (TSS);
 3. Carrying forward the daily maximum technology-based concentration limitation for settleable solids;
 4. Carrying forward the monthly average and daily maximum water quality-based concentration limits for *Escherichia coli* bacteria; and
 5. Carrying forward the minimum monitoring frequency requirements for BOD₅, TSS, settleable solids, *E. coli* bacteria, total residual chlorine (TRC) and pH.

This permitting action is different from the 12/17/98 licensing action and the 7/21/00 administrative modification in that it is:

1. Revising the monthly average, weekly average and daily maximum technology-based mass limits for BOD₅ and TSS;
2. Establishing a requirement for a minimum of 85% removal of BOD₅ and TSS;
3. Eliminating the weekly average concentration reporting requirement for settleable solids;
4. Revising the daily maximum water quality-based concentration limitation and establishing a monthly average technology-based concentration limitation for TRC;
5. Establishing monthly average water quality-based concentration and mass limits for lead based on the facility's toxicity testing results;

2. PERMIT SUMMARY (cont'd)

6. Revising the pH range limitation;
 7. Establishing a chemical-specific (priority pollutant) testing requirement; and
 8. Revising the authorization to receive septage from 2,500 gallons to 3,000 gallons per day.
- c. Facility History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the Pittsfield WWTF.

October 24, 1984 – The Department issued WDL #1477 to the Town of Pittsfield for the disposal of septage wastes, which authorized the facility to receive a maximum of 2,500 gallons per day of septic tank and holding tank wastes into its wastewater treatment facility.

February 15, 1995 – The Department issued a letter to the Town of Pittsfield advising that the facility was exempt from toxics testing (whole effluent toxicity and chemical-specific) based on the Department's determination that the facility does not discharge to a classified surface waterbody.

December 17, 1998 – The Department issued WDL #W001477-5L-D-R to the Town of Pittsfield for the monthly average discharge of up to 1.5 MGD of secondary treated sanitary wastewater to the Sebasticook River in Pittsfield, Maine via a peat bog. Use of the term peat bog does not correctly describe the type of freshwater wetland referenced in the 12/17/98 and this permitting action. Therefore, the Department is clarifying that the discharge occurs to a freshwater palustrine wetland as a conveyance to the Sebasticook River, recognizing that the wetland provides an uncertain amount of additional dilution prior to the effluent entering the river. The 12/17/98 WDL superseded previous WDL #W001477-46-C-R issued on 8/20/92, WDL #W001477-46-B-R issued on 2/4/88, WDL #1477 issued on 11/23/82, and WDL #1477 issued on 6/13/77.

September 29, 1999 – The USEPA issued NPDES permit #ME0100528 to the Town of Pittsfield for the monthly average discharge of up to 1.5 MGD secondary treated sanitary wastewater. This permitting action superseded previous NPDES permits issued on 9/23/92, 9/20/94, 3/1/91, 9/30/87, and 9/3/82, and expired on March 31, 2003.

July 21, 2000 – The Department administratively modified WDL #W001477-5L-D-R through issuance of a letter and revised effluent limitations table. The modification included a new provision, described in the footnotes section of the effluent limits table, that allowed for excursions of pH above and below the licensed limits, provided that excursions were the result of natural causes and that the licensee provide the Department with a written explanation for all excursions. The pH range was the only parameter addressed in the letter accompanying the revised limits table. However, the revised limits table contained a requirement to collect 24-hour composite samples for BOD₅ and TSS while the original limits table required grab samples. This change was not coded into the permit compliance system (PCS) database and the sample type continues to appear as a grab sample on the facility's monthly discharge monitoring reports (DMR). The revised limits table also included a reporting requirement for the daily maximum

2. PERMIT SUMMARY (cont'd)

discharge flow values while the original table did not have a reporting requirement. The revised limits table included a daily maximum concentration limit of 0.3 ml/L for settleable solids while the original table contained a less restrictive reporting requirement. The aforementioned changes to the discharge flow and settleable solids parameters were properly coded into the PCS database and currently appear on the facility's DMR.

March 31, 2003 – The Pittsfield WWTF submitted a General Application to the Department for the renewal of WDL #W001477-5L-D-R. The application was accepted for processing on March 31, 2003, and assigned WDL #W001477-5L-E-R.

October 8, 2003 – The Department's Bureau of Land and Water Quality, Divisions of Water Resource Regulation and Environmental Assessment conducted an onsite inspection of the Pittsfield WWTF to evaluate and document the condition of the freshwater wetland, which serves as the immediate receiving water for the facility discharge.

- c. Source Description: The Town of Pittsfield operates a municipal wastewater treatment facility located on the McCarthy Road in Pittsfield, Maine, which has been online since 1978. The treatment facility currently serves a population of approximately 1,200 customers with two known minor industrial users, CM Almy & Son, Inc. and Edwards Systems Technology, which are both manufacturing companies that include metals finishing processes. The Pittsfield WWTF cited a 1998 study which indicates that the industrial users contributed less than 10% of the total wastewater volume received by the facility, however the permittee is investigating whether or not ten (10) other commercial customers contribute industrial sources of wastewater to the influent flow. The Pittsfield WWTF is not required to implement a formal pretreatment program. There are no combined sewer overflow (CSO) points associated with the collection system and the system consists of approximately 26.7 miles of various types and diameter sewer lines with one pump station, which is located on South Main Street. Approximately 95% of the sewage collection system is gravity controlled and it is approximately 10% combined (stormwater and sanitary) and 90% separated.

The previous licensing action authorized the Pittsfield to receive a maximum of 2,500 gallons per day (GPD) of septage wastes from local haulers. Approval to receive this quantity of septage was based on a written Septage Management Plan (latest revision dated March 2003) and Department rule Chapter 555, *Standards for the Addition of Septage to Waste Water Treatment Facilities*. This permitting action is revising this authorization to 3,000 gallons per day based on the capacity of the trucks hauling septage to the treatment facility.

A map showing the location of the treatment facility, freshwater wetland, and Sebasticook River is included as Fact Sheet Attachment A.

2. PERMIT SUMMARY (cont'd)

- d. Wastewater Treatment: The Pittsfield WWTF provides a secondary level of treatment via a municipal sewer collection system and facultative lagoon system operated in series. The West Branch of the Sebasticook River flows through the center of downtown Pittsfield and sewage is conveyed across the river via two interceptor sewer pipes. A 6-inch diameter east interceptor pipe conveys all flows during normal weather conditions to a 100-inch long by 36-inch wide by 45-inch deep (approximately 93 cubic feet) grit collection chamber located on Hunniwell Avenue. A 12-inch diameter west interceptor pipe carries flows during wet weather events when the east interceptor is at or exceeding capacity. These two pipes converge to a single 18-inch diameter sewer line at a location beyond the grit chamber, which continues to the treatment lagoons. The system does not provide for grit removal from the west interceptor during wet weather flows. The facility reported that twice annually (once in the spring and once in the fall) a few cubic yards of heavy settled sludge are removed from the grit chamber and hauled to the influent structure at the head end of the first treatment lagoon for biological treatment.

The influent flow is measured using two Parshall flumes located in the inlet measuring chamber, and is conveyed through an influent gate located at the head end of the lagoon system. The two facultative lagoons each occupy approximately 35 acres of land area, are generally rectangular in shape and have a combined total capacity of approximately 144,000,000 gallons at an average depth of five (5) feet. Under normal operating conditions, the influent gates are positioned such that all wastewater flows into the first of the two lagoon cells. Flow to the second lagoon cell is controlled by a weir gate installed at the east end of the lagoons. The lagoon system provides a total retention time of approximately 180 days during normal weather conditions. Facility operators can control the water level in the lagoons from a low of approximately 54 inches to five (5) feet above the floor of the outlet structure. However, the facility reported that they manage discharge flows between 1.2 and 1.3 MGD on a constant and year-round basis. As a matter of clarification, the previous facility operator occasionally closed the effluent weir gate to eliminate the discharge during certain times of the year. Therefore, there was no discharge associated with this facility for certain days, weeks or months and these were reported as no discharge events on the monthly discharge monitoring reports. Treated wastewater is conveyed through a weir gate installed on the west end of the second lagoon to a Parshall flume located in the adjacent treatment facility building. The effluent flows are recorded using a two-pen circular chart recorder. The treatment plant was designed with a gas chlorination system and a contact chamber with a designed contact time of approximately 30 minutes. However, the Pittsfield WWTF reported that the retention time afforded by the lagoon system allows effluent discharge without disinfection while maintaining compliance with the *Escherichia coli* bacteria limits imposed for the protection of Class C waters. The Pittsfield WWTF reported that the gaseous chlorination system would likely be replaced with a sodium hypochlorite disinfection system if it is determined that the effluent must be disinfected prior to discharge to meet the bacteria limits established in this permitting action.

The treated effluent is conveyed for discharge to a palustrine scrub-shrub wetland via a 30-inch diameter reinforced concrete outfall pipe identified as Outfall #001A. The wetland serves as a conveyance to the Sebasticook River and provides additional "polishing" of the final effluent before entering the river as surface flow, though the wetland is not considered by the Department to provide tertiary treatment. During construction of the facility in 1978, a dissipation pool was

2. PERMIT SUMMARY (cont'd)

excavated in the wetland immediately off the end of the outfall pipe for the purpose of flow energy reduction and to promote the even distribution of flow into the surrounding vegetated wetland area. The open-water dissipation pool is approximately 0.5 acres in size and of an unknown depth. A 15 to 40-foot wide strip of emergent vegetation dominated by broad-leaved cattail (*Typha latifolia*) surrounds the pool and provides additional filtration and assimilation functions before the flow passes further into the wetland complex. Beyond the emergent area, the wetland consists primarily of scrub-shrub and forested wetland vegetation dominated by shrub willow (*Salix* species), speckled alder (*Alnus rugosa*) and red maple (*Acer rubrum*). The wetland complex is directly associated with the Sebasticook River through ground water and surface water exchanges, and wastewater that is not assimilated within the wetland is expected to enter the river, which is located approximately 1,700 linear feet south of the end-of-pipe location.

The lagoon system was designed with the intent that each lagoon cell would be drained once every ten to twenty years, on average, for sludge removal. The Town of Pittsfield reported that they have not removed any sludge from either lagoon cell since the facility went online in 1978. The Town of Pittsfield contracted with Acheron, Inc. Engineering, Environmental and Geological Consultants to study and evaluate alternative means of sludge disposal. On January 13, 2004, the Town of Pittsfield presented the Department's Bureau of Land & Water Quality, Division of Engineering, Compliance and Technical Assistance with a report entitled, "Letter Report Lagoon Sludge Profile Pittsfield Wastewater Treatment Facility," prepared by Acheron, Inc. and dated April 8, 2002. The report summarized results of studies conducted in June, 1989 and in October, 2001. The results of the October, 2001 study indicate that the average sludge depth of the first lagoon cell is 12-inches, that the sludge occupies approximately 20% of the lagoon's total working volume and that the estimated wet sludge volume is 50,500 cubic yards. The average sludge depth of the second lagoon cell is 7.6-inches, which occupies approximately 12.7% of the lagoon's total working volume and the estimated wet sludge volume is 25,300 cubic yards. The report further indicates that the depth of sludge in the first lagoon is now "impacting treatment plant operational efficiency" and recommended that the Town of Pittsfield undertake a program to remove the accumulated sludge from first lagoon cell. The report provided a recommended sequence of events for the sludge removal and disposal processes beginning with consultation with the Department. The Town of Pittsfield purchased additional parcels of land adjacent to the lagoon system that are intended to be used for the disposal of sludge approved for agronomic use. As of the date of this permitting action, no sludge has been applied to these parcels of land.

A wastewater flow schematic is included as Fact Sheet Attachment B.

3. CONDITIONS OF PERMIT

Maine law, 38 M.R.S.A. §414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A. §420, and Department Rule Chapter 530.5, *Surface Water Toxics Control Program*, requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Waters Act.

4. RECEIVING WATER QUALITY STANDARDS

In response to inquiries made by the Department since the issuance of the Pittsfield WWTF's last waste discharge license, the Maine Office of the Attorney General has interpreted Maine law 38 M.R.S.A. §361-A(7) to clarify that wetlands constitute "*Waters of the State*" through their associations with and connections to ground water and surface waters. However, unlike other ground water and surface water resources, such as great ponds, rivers, marine and estuarine waters, specific classification and water quality standards for wetlands have not been established. Treated wastewater from the Pittsfield WWTF is discharged to a freshwater wetland as a conveyance to the Sebasticook River and the Department recognizes that the wetland provides some additional dilution of the effluent. The extent of dilution, however, has not been determined. Maine law 38 M.R.S.A. §467(4)(H)(1)(a) classifies the Sebasticook River at the point of discharge as a Class C waterway. Maine law 38 M.R.S.A. §465(4) describes the standards for Class C waters. Based on a Department best professional judgement (BPJ) determination that the freshwater wetland at the point of discharge is hydrologically connected to the Sebasticook River via surface and ground water flows, in lieu of specific water quality standards established for freshwater wetlands, and in consideration that the waste stream ultimately enters the Sebasticook River in Pittsfield, the Department is applying the standards adopted for Class C waters to this discharge, as was done in the previous licensing action, to ensure that the discharge does not cause or contribute to non-attainment of the standards for Class C waters.

5. RECEIVING WATER QUALITY CONDITIONS

At the time of the facility's construction in the late 1970s, the Pittsfield WWTF consulted with the Department as to the most favorable discharge location, given the water quality condition of the Sebasticook River at that time. The Department recommended that the Pittsfield WWTF outfall not extend directly to the river, rather that it be designed to discharge directly to a palustrine scrub-shrub wetland as a conveyance to the Sebasticook River recognizing that the wetland would provide some level of additional effluent dilution prior to the flow entering the river. This decision followed an evaluation of alternative discharge options, the assimilative capacity of the freshwater wetland and water quality impacts to the Sebasticook River anticipated by a new point source discharge. Based on this BPJ determination, the Department supported the Pittsfield WWTF's proposal to convey treated wastewater to the wetland with the understanding that the flow would ultimately enter the river as a surface discharge after passing through and being further "polished" by natural biological processes occurring in the wetland.

On October 8, 2003, Department staff conducted an inspection of the Pittsfield WWTF and the freshwater wetland at the point of discharge to evaluate the condition of the wetland following more than 25 years of constant discharge. The inspection revealed that the discharge of wastewater at the licensed limit had not caused significant changes in the dominant wetland vegetative community, had not caused scouring or erosional channels to form and had not noticeably affected the wetland's ability to support a diverse and abundant population of native flora and fauna. Based on this Department BPJ determination, and in consideration of the anticipated impacts to both the wetland and the river by extending the outfall directly to the river, the Department has concluded that the existing outfall location should not be relocated at this time. However, significant changes in the nature and/or volume of wastewater being discharged by the Pittsfield WWTF may affect the long-

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

term assimilative capacity of the wetland, as well as it's ability to serve as a conveyance to the river, and must be reported to the Department in accordance with Section F of this permit, "Notification Requirements."

The State of Maine 2002 Integrated Water Quality Monitoring and Assessment Report, prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists an 8.6-mile reach (Segment ID #332R) of the Sebasticook River extending to and beyond the point of discharge as, "Category 4C: Rivers and Streams with Impairment Not Caused by a Pollutant." Impairment in this context refers to the aquatic life standard, which is caused by an impoundment created by the Burnham Dam. The Department has no information at this time that the discharge of treated wastewater from the Pittsfield WWTF causes or contributes to the impairment status of the Sebasticook River at the point of discharge. Furthermore, the Department concludes that the continued discharge of treated wastewater at or below the permitted limits is not anticipated to interfere with existing uses of the wetland, cause soil erosion or harm to aquatic or terrestrial habitats, interfere with the natural flow of water, lower water quality or cause or increase flooding.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

- a. Dilution: Dilution factors associated with the discharge from the Pittsfield WWTF were derived in accordance with freshwater protocols established in Department rule Chapter 530.5, Surface Water Toxics Control Program, October 1994. Effluent discharged by the Pittsfield WWTF flows through a freshwater wetland before entering the surface of the Sebasticook River as sheet flow. Due to uncertainties of the impacts and mixing within the wetland, the Department is making a best professional judgement determination to utilize the entire river flow (1Q10) in calculating dilution factors associated with this discharge recognizing that, at least in terms of the river, there is probably additional dilution from the wetland. Based on a monthly average flow limit of 1.5 MGD, the Department has determined that the discharge will be diluted by the following factors:

$$\text{Acute: } 1\text{Q}10 = 13.0 \text{ cfs} \quad \Rightarrow \frac{(13.0 \text{ cfs})(0.6464) + 1.5 \text{ MGD}}{1.5 \text{ MGD}} = 6.6:1$$

$$\text{Chronic: } 7\text{Q}10 = 28.7 \text{ cfs} \quad \Rightarrow \frac{(28.7 \text{ cfs})(0.6464) + 1.5 \text{ MGD}}{1.5 \text{ MGD}} = 13.4:1$$

$$\text{Harmonic Mean} = 189.9 \text{ cfs} \quad \Rightarrow \frac{(189.9 \text{ cfs})(0.6464) + 1.5 \text{ MGD}}{1.5 \text{ MGD}} = 82.8:1$$

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- b. Flow: The previous licensing action established a monthly average discharge flow limitation of 1.5 MGD, considered representative of the design capacity for the facility, and a 7/21/00 administrative modification added a reporting requirement for the daily maximum discharge flow. Both the monthly average limitation and daily maximum reporting requirement are being carried forward in this permitting action. This permitting action is also carrying forward the continuous recorder monitoring requirement for the effluent flow.
- c. Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS): The previous licensing action established monthly average and weekly average BOD₅ and TSS concentration limits of 30 mg/L and 45 mg/L, respectively, that were based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR 133.102 and Department rule Chapter 525(3)(III). The previous licensing action also established daily maximum BOD₅ and TSS concentration limits of 50 mg/L based on a Department best professional judgement of best practicable treatment (BPT). All three concentration limits are being carried forward in this permitting action. The previous licensing action established monthly average, weekly average and daily maximum technology based mass limits of 300 lbs./day, 450 lbs./day and 500 lbs./day, respectively, which were erroneously based on a monthly average discharge flow of 1.2 MGD. This permitting action is revising all three mass limits based on the monthly average discharge flow limitation and the applicable concentration limits. The administrative modification issued by the Department on July 21, 2000, revised the sample type for both BOD₅ and TSS from grab to 24-hour composite. However, this change was not properly coded into the permit compliance system (PCS) database and was not revised on the facility's monthly discharge monitoring reports (DMR). This permitting action serves to formally revise the sample type from grab to 24-hour composite for BOD₅ and TSS based on a Department BPJ determination that considered the results of the Department's 2003 lagoon sample type study. Results of the study demonstrated a statistically significant difference between grab samples and 24-hour composite samples.

This permitting action is also establishing a new requirement for a minimum of 85% removal of BOD₅ and TSS pursuant to Chapter 525(3)(III)(a)(3) and (b)(3) of the Department's rules. This permitting action is carrying forward the minimum monitoring frequency for BOD₅ and TSS of once per week (1/Week) based on Department guidance for POTWs licensed to discharge between 0.1 and 0.5 MGD.

- d. Settleable Solids: The previous licensing action established a reporting requirement for the weekly average and daily maximum concentration values and the Department's 7/21/00 administrative modification added a daily maximum concentration limit of 0.3 ml/L for settleable solids and monitoring frequency of once per week. This permitting action is eliminating the weekly average reporting requirement and carrying forward the daily maximum concentration limitation of 0.3 ml/L as a BPT requirement. This permitting action is carrying forward the minimum monitoring frequency of once per week (1/Week) based on a Department best professional judgement (BPJ) determination of the level of monitoring necessary to assess compliance with this parameter following a review of the facility's compliance history.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- e. Escherichia coli bacteria: The previous licensing action established seasonal monthly average and daily maximum concentration limits for *E. coli* bacteria of 142 colonies/100 ml (geometric mean) and 949 colonies/100 ml (instantaneously level) respectively, based on the State of Maine Water Classification Program criteria for Class C waters found at 38 M.R.S.A. §465(4)(B). These concentration limits are being carried forward in this permitting action. This permitting action is carrying forward the minimum monitoring frequency of once per week (1/Week) based on Department guidance for POTWs licensed to discharge between 0.1 and 0.5 MGD.
- f. Total Residual Chlorine (TRC): The previous licensing action established a seasonal daily maximum discharge limitation of 1.0 mg/L for TRC and a daily monitoring requirement. Limits for TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Department licensing/permitting actions impose the more stringent of either a water quality-based or BPT-based limit. End-of-pipe water quality based concentration thresholds may be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dilution Factors	Calculated	
			Acute EOP Threshold	Chronic EOP Threshold
0.019 mg/L	0.011 mg/L	6.6:1 (A) 13.4:1 (C)	0.125 mg/L	0.147 mg/L

The Department has established a daily maximum BPT limitation for TRC of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds. For facilities that need to dechlorinate the discharge to meet water quality based thresholds, the Department has established daily maximum and monthly average BPT limits of 0.3 mg/L and 0.1 mg/L, respectively. The Pittsfield WWTF was designed and constructed with all necessary structures and mechanisms to administer chlorine-based compounds to the effluent prior to discharge if deemed necessary to meet the *E. coli* limits contained in this permit. However, the retention time provided by the lagoon system allows the facility to discharge treated wastewater without chlorination or other means of disinfection while maintaining compliance with *E. coli* limits for Class C waters, and the Pittsfield WWTF has not used chlorine or any other chemicals for disinfection since it went online in 1978. Although the facility does not disinfect the final effluent prior to discharge, the protocol for sludge removal requires one of the two lagoons to be taken offline, during which disinfection may be necessary. Therefore, the Department is carrying forward numeric discharge limits for TRC.

The Department has determined that the Pittsfield WWTF must dechlorinate the final effluent prior to discharge when using chlorine-based compounds for disinfection in order to meet the water quality based thresholds. Therefore, this permitting action is establishing the more stringent water quality-based daily maximum concentration limit of 0.13 mg/L (rounded up from 0.125 mg/L) and the more stringent BPT-based monthly average limit of 0.1 mg/L. This permitting action is carrying forward the minimum monitoring frequency for TRC of once per day (1/Day), which is required only when the facility is disinfecting the effluent, and which is based on Department guidance for POTWs licensed to discharge between 0.1 and 0.5 MGD.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- g. pH: The previous licensing action established a pH range limitation of 6.0 – 8.5 standard units (SU), considered by the Department at the time as BPT for secondary treated wastewater. The Department's 7/21/00 administrative modification allowed for excursions of pH above and below the licensed limits provided that excursions were the result of natural causes and that the licensee provide the Department with a written explanation for all excursions. Pursuant to a new Department rule found at Chapter 525(3)(III)(c), this permitting action is revising the pH range limitation to 6.0 – 9.0 SU, which is now considered BPT. This permitting action is carrying forward the allowance for excursions of pH above and below the licensed limits provided that excursions were the result of natural causes and that the licensee provide the Department with an oral explanation for all excursions within 24 hours of the permittee becoming aware of the circumstances and a written explanation within 5 days of the permittee becoming aware of the situation. This permitting action is carrying forward the minimum monitoring frequency of twice per week (2/Week) based on a Department best professional judgement (BPJ) determination of the level of monitoring necessary to assess compliance with this parameter following a review of the facility's compliance history.
- h. Whole Effluent Toxicity (WET) and Chemical-Specific Testing: Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530.5, *Surface Water Toxics Control Program*, set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Test species for freshwater are the water flea (*Ceriodaphnia dubia*) and either brook trout (*Salvelinus fontinalis*) or fathead minnow (*Pimephales promelas*), depending on the frequency of testing requirements. Chemical-specific, or "priority pollutant (PP)," testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria.

Pursuant to the criteria established in Department rule Chapter 530.5, the Pittsfield WWTF has been placed in the high frequency category for WET testing as the facility has a dilution ratio of less than 20:1, and in the high frequency category for chemical-specific testing as the facility is licensed to discharges more than 1.0 million gallons of wastewater per day.

The Pittsfield WWTF has completed a total of one (1) acute and one (1) chronic no observed effect level (NOEL) test and one (1) chemical-specific test. See Attachment C of this Fact Sheet for a summary of the WET test results and Attachment D of this Fact Sheet for a summary of the chemical-specific test dates.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

On February 15, 1995, the Department notified the Pittsfield WWTF that the facility qualified for an exemption under the then recently-revised toxics rule on the basis that the facility did not discharge to surface waters of the State, as defined by 38 M.R.S.A §361-A. The Department, in consultation with the State of Maine Office of the Attorney General, has since reconsidered the definition of "*Waters of the State*" and interpreted Maine law 38 M.R.S.A. §361-A(7), which defines "*Waters of the State*," to clarify that freshwater wetlands do, in fact, constitute waters of the State through their associations with and connections to ground water and surface waters. State law provides the Department with the authority to administer the MEPDES program in Waters of the United States to the same extent as the NPDES program administered by the USEPA. "*Waters of the United States*" is defined in 40 CFR Chapter I, Part 122.2 as, "*All interstate waters, including interstate 'wetlands'.*" Therefore, this Department concludes that freshwater wetlands constitute Waters of the State and the discharge of wastewater to wetlands is subject to all applicable Department rules and regulations, including the *Surface Water Toxics Control Program*.

The premise of the *Surface Waters Toxics Control Program* is protection of surface waters from the discharge of toxic pollutants in toxic amounts. The WET testing protocol, however, was designed to evaluate acute and chronic toxicity effects through reproductive, survival and growth tests conducted on select vertebrate and invertebrate indicator species typically associated with riverine and lacustrine ecosystems. The Department has not evaluated the applicability of these indicator species with regard to freshwater wetland discharges. Further, the USEPA determined that WET testing was not an adequate environmental indicator for the discharge associated with the Pittsfield WWTF and suspended WET testing requirements upon issuance of the facility's 9/29/99 NPDES permit. Therefore, the Department concludes that the species approved for use in WET test procedures may not be appropriate for the discharge from the Pittsfield WWTF and is making a BPJ determination to waive WET testing requirements in this permitting action.

The Department does, however, reserve the right to impose WET testing requirements at any time if deemed necessary and appropriate to protect water quality and designated uses within the intent of the *Surface Waters Toxics Control Program*.

With regard to chemical-specific testing, the Department's 2/15/95 letter stated that "*a POTW determined to be exempt from toxics testing may still be subject to chemical-specific effluent limitations and testing requirements on a case-by-case basis as deemed necessary by the DEP to insure compliance with water quality standards.*" Chemical-specific testing compares each pollutant to acute, chronic, and human health water quality criteria for freshwater and marine resources. A portion of the waste stream entering the Pittsfield WWTF contains process wastewater from two metals finishing manufactures, and the Town is actively investigating possible industrial contributions from other sources in Pittsfield. Consequently, the final effluent is expected to contain residual amounts of metals and other non-conventional pollutants. The Department, therefore, is relying on chemical-specific analyses of the effluent in order to assess toxicity impacts that may be caused by the Pittsfield WWTF's discharge.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

On December 10, 2003, the Department conducted a statistical evaluation on the aforementioned chemical-specific tests results in accordance with the statistical approach outlined in the USEPA's March 1991 document entitled Technical Support Document (TSD) for Water Quality Based Toxics Control, Chapter 3.3.2 and Maine Department of Environmental Protection Guidance, July 1998, entitled Toxicity Program Implementation Protocols.

The 12/10/03 statistical evaluation indicates that the discharge has a reasonable potential (RP) to exceed the chronic ambient water quality criterion (AWQC) for lead. Therefore, the Department is establishing monthly average end-of-pipe (EOP) effluent concentration and mass limits for lead based on current AWQC. The basis for the monthly average concentration and mass limitations for the discharge are as follows:

Chronic AWQC	Chronic Dilution Factor	Calculated EOP Chronic Conc. Threshold	Monthly Average Mass Threshold
0.41 ug/L	13.4:1	5.5 ug/L	0.069 lbs./day

Example Calculation:

$$(0.00041 \text{ mg/L})(13.4)(8.34 \text{ lbs./gallon})(1.5 \text{ MGD}) = 0.069 \text{ lbs./day}$$

Concentration limits in this permitting action are based on Department rule Chapter 523, §6(f)(2), which states that pollutants limited in terms of mass additionally may be limited in terms of other units of measurement and the permit shall require the permittee to comply with both limitations.

In addition, the USEPA's Technical Support Document for Water Quality-Based Toxics Control, March 1991, Chapter 5, Section 5.7, recommends that permit limits on both mass and concentration be specified for effluents discharging into waters with less than 100-fold dilution to ensure attainment of water quality standards. As not to the Pittsfield WWTF for operating at flows less than the permitted design flow of the waste water plant, the Department is establishing concentration limits based on a factor of 1.5, which is consistent with all other permitting actions by the Department when establishing concentration limits for toxic pollutants. Therefore, concentration limits for lead have been calculated to be:

Parameter	Calculated EOP Concentration Threshold	Monthly Average Concentration Limit
Lead	5.5 ug/L	8.25 ug/L

This permitting action is establishing a minimum monitoring requirement for total lead of once per year(1/Year) in a different calendar quarter each year based on a Department BPJ determination of the level of monitoring necessary to demonstrate compliance with this parameter following a review of the facility's compliance history and for consistency with the monitoring requirements established for other wastewater treatment facility discharges in Maine. This permitting action is also establishing surveillance and screening level chemical-specific testing requirements in accordance with Chapter 530.5 as follows:

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

1. **Beginning the effective date of this permit and lasting through 12 months prior (June 2008) to permit expiration**, the permittee shall conduct surveillance level chemical-specific testing at a minimum frequency of once per year (1/Year) in a different calendar quarter each year.
2. **Beginning 12 months prior (June 2008) to permit expiration and lasting through permit expiration**, the permittee shall conduct screening level chemical-specific testing conducted at a minimum frequency of once per calendar quarter for four consecutive calendar quarters

Upon completion of all surveillance and screening level test required by this permit, the Department will evaluate the data to determine whether a reduced testing frequency is appropriate.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the Sebasticook River to meet standards for Class C classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Rolling Thunder Express* newspaper on or about February 24, 2003. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

9. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from, and written comments sent to:

William F. Hinkel
Division of Water Resource Regulation
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7659

10. RESPONSE TO COMMENTS

During the period of February 4, 2004 through March 4, 2004, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit to be issued to the Town of Pittsfield. The Department received comments from the permittee in a letter dated March 4, 2004. The Department has prepared responses to those comments as follows:

Comment #1: The permittee stated that the condition requiring the facility to maintain a working disinfection system will result in a significant cost to the community. The permittee stated that with a proposed total residual chlorine (TRC) limit of 0.1 mg/L, the Town would have to install a new dechlorination system to meet the licensed limits. The permittee further expressed concern that the more stringent TRC limits were based on proposed changes to the statutory bacteria limits and that it is premature to impose limits based on proposed legislation.

Response #1: The Pittsfield WWTF was designed with a gaseous chlorination system, which the Town reports has never been used due to the treatment afforded by the lagoon system, but that remains functional as intended. The Department has made a best professional judgement (BPJ) determination that disinfection of the effluent *may be* necessary during sludge removal activities (due to a reduction in treatment capacity) in order to meet the bacteria limits established in this permitting action. Therefore, this permitting action is carrying forward a TRC monitoring requirement that is applicable only *when, and if*, the facility is disinfecting the effluent prior to discharge. The basis for the water quality-based monthly average TRC limit of 0.1 mg/L is described in Fact Sheet section 6(f) and is not related to the *E. coli* bacteria standards. Rather, it is derived using the chronic ambient water quality criterion for TRC and the applicable dilution factor. This permitting action contains effluent limitations for *E. coli* bacteria, however the method for achieving compliance with these limits is not specified. This permitting action does not contain a requirement to maintain a working disinfection system to achieve compliance with the *E. coli* bacteria limits. As a point of further clarification, if the permittee determines that chlorine-based compounds must be utilized to achieve the necessary *E. coli* bacteria kill, this permitting action requires de-chlorination of the effluent in order to achieve compliance with the water quality-based TRC limit.

The monthly average and daily maximum *E. coli* bacteria limits are not based on proposed changes to existing legislation. This permitting action is carrying forward the *E. coli* bacteria limits of 142 colonies/100ml and 949 colonies/100ml from the previous licensing action, which are based on the State of Maine Water Classification Program criteria for Class C waters and Department rule 38 M.R.S.A. §465(4)(B).

10. RESPONSE TO COMMENTS (cont'd)

Comment #2: The permittee stated that the Department did not consider additional dilution provided by the freshwater wetland in calculating the reasonable potential to exceed the ambient water quality criteria for total lead. The permittee further stated that Chapter 530.5, *Surface Waters Toxics Control Program*, was not intended to cover indirect discharges to Waters of the State and suggested that the regulations be updated before including discharges to waters not covered by the rule.

Response #2: The Department has not established specific water quality standards for freshwater wetlands, as has been done for other surface waters such as rivers and lakes. In lieu of water quality standards for freshwater wetlands, the Department is utilizing the standards established for Class C waters, the classification of the Sebasticook River at the point of discharge, in order to ensure that the discharge from the Pittsfield WWTF does not cause or contribute to non-attainment of the standards for Class C waters. The Department recognizes that the freshwater wetland located between the outfall and the river likely provides some additional dilution of the effluent prior to the flow entering the river as a surface discharge. To that end, the Department has made a BPJ determination to utilize the full river flow (1Q10) in acute evaluations rather than the default dilution factor of $\frac{1}{4}$ 1Q10, as is done for other discharges in which the permittee has not demonstrated that the discharge receives complete and rapid mixing of the of the effluent with the receiving waters.

The permittee may, in coordination with the Department's Bureau of Land and Water Quality, Division of Environmental Assessment, perform a study to evaluate the actual mixing characteristics of the effluent with the freshwater wetland and river. The Department will evaluate any new information regarding dilution and mixing characteristics generated by the permittee and will reopen this permit in accordance with Special Condition L to modify the effluent limitations and dilution factors as appropriate.

As discussed in Section 4 and Section 6(h) of this Fact Sheet, freshwater wetlands constitute Waters of the State through their associations with and connections to ground water and surface waters. Therefore, the discharge from the Pittsfield WWTF is considered a direct discharge to Waters of the State and this discharge is subject to the Surface Waters Toxics Control Program as currently enacted.

Comment #4: The permittee stated that the origin of elevated lead levels in the final effluent is the public drinking water system. Therefore, the State should evaluate the need to make adjustments for pollutants that are naturally occurring in the source waters in accordance with 40 CFR Part 129.6, which contains a provision for allowances to be made when the pollutant of concern is introduced by the intake source.

Response #4: The permittee referenced federal regulation 40 CFR Part 129.6, "*Adjustment of effluent standard for presence of toxic pollutants in the intake water.*" The Department has adopted a rule consistent with 40 CFR Part 129.6 that addresses adjustment of effluent standards for the presence of toxic pollutants in the intake water. Chapter 525(2)(VI)(a) of the rule states that the Department shall give credit and shall adjust the effluent standard(s) if the source of the water supply is the same body of water into which the discharge is made. The Pittsfield Water Department obtains water from ground water wells and the Pittsfield WWTF discharges wastewater to the Sebasticook River. Therefore, this provision in the law is not applicable to the discharge from the

10. RESPONSE TO COMMENTS (cont'd)

Pittsfield WWTF because the source waters are not the same as the receiving waters. The Department recommends that the Pittsfield WWTF coordinate with the Pittsfield Water Department to identify sources and solutions to the leaching of lead from the potable water distribution system.

Comment #5: The permittee stated that the addition of a chemical-specific testing requirement would present a significant financial burden to the small rural community. Historical data indicate very low or non-detectable levels of pollutants and the influent characteristics have not changed significantly over the years to justify testing for pollutants that have not been previously detected.

Response #5: The purpose of this MEPDES permit is to ensure that the discharge meets all water quality standards, including standards applied to toxic pollutants. The permittee has completed a total of one chemical-specific test since enactment of the *Surface Waters Toxics Control Program* (toxics rule). This test was performed in October 1998 and the results indicate a reasonable potential to exceed the ambient water quality criteria for total lead. Chapter 530.5(C)(2), states that, "*Where it is determined...that a discharge contains pollutants at levels that have a reasonable potential to cause or contribute to an ambient excursion in excess of a numeric or narrative water quality criterion, appropriate water quality-based limits must be established in the license upon issuance.*" Therefore, the Department has established concentration and mass limits for total lead in this permitting action.

During the development of the toxics rule, several persons commented that the cost of the testing program in small communities was of great concern. In response, the Department developed criteria, identified in Chapter 530.5 (B)(7)(d), which if met would exempt the facility from performing toxicity testing. The Pittsfield WWTF does not meet the criteria and is therefore subject to the rule and all testing requirements prescribed by the rule. The toxics rule does, however, include provisions for reduced testing of municipal discharges, as described in Chapter 530.5 (7)(c). Currently, there is insufficient data characterizing the discharge from the Pittsfield WWTF to qualify for reduced testing. The Department will evaluate the results of toxicity data following completion of the screening level testing requirement and will determine whether reduced testing is appropriate.

Comment #6: The permittee disagrees with the need to collect composite samples for BOD₅ and TSS and stated that this requirement would cost the Town between \$3,000 and \$5,000. The permittee requested a copy of the 2003 study conducted by the Department, which is the basis for the composite sampling requirement. The permittee also requested that the Department utilize facilities with treatment lagoons similar to their own rather than solely mechanically aerated lagoons in determining the need to collect composite samples.

Response #6: The Department conducted a study of 24-hour BOD₅ and TSS composite versus grab samples for lagoon wastewater treatment plants between March 1 and June 27, 2003 to identify significant differences between the two sampling methods. The BOD₅ correlations demonstrate that there is, in general, a statistically significant difference between 24-hour composite and grab samples for most of the facilities participating in the study. The TSS correlations demonstrate that there is not, in general, a statistically significant difference between 24-hour composite and grab samples. The results suggest that lagoons should, as a default, collect composite samples for BOD₅ and TSS analyses in order to provide more accurate analyses of effluent quality and determinations of permit

10. RESPONSE TO COMMENTS (cont'd)

compliance. A copy of this report is being distributed to all wastewater facilities in Maine that utilize treatment lagoons for review and comment. Based on the findings of this study, the Department is establishing 24-hour composite sample collection for all wastewater lagoons.

Comment #7: The permittee inquired as to whether the BOD₅ and TSS percent removal must be reported on the monthly discharge monitoring report (DMR) or on the Department's monthly "49" Form.

Response #7: The Department clarified the monitoring requirements associated with percent removal in the footnotes to Special Condition A, *Effluent Limitations and Monitoring Requirements*. The permittee is required to report percent removal values on the DMR and on the DEP "49" form.

Comment #8: The permittee stated that the requirement to conduct chemical-specific testing at a detection limit specified by the Department is unreasonable in that detection limits are based on best possible conditions with a sample made up with laboratory pure water. Wastewater has interferences that do not always allow laboratories to meet the minimum reporting limits established by the Department.

Response #8: In reviewing the results of priority pollutant testing prior to 1996, it had become evident to the Department that laboratories doing the testing were frequently not achieving the specified reporting limits. Therefore, the Department reviewed the list of reporting limits with the Department of Human Services' Health and Environmental Testing Laboratory and with commercial labs. As a result, the Department generated a list of revised and new reporting limits in July 1996, which are considered the current reporting limit standards for priority pollutants in wastewater. A copy of this list will be furnished upon request. All POTWs with a chemical-specific testing requirement are subject to these reporting requirements. To ensure the best quality results, the Department recommends that the permittee: 1) check with the laboratory you plan to use for priority pollutant testing to make sure it is using the proper analytical methods and can achieve the specified reporting limits; 2) inform the lab that the sample is wastewater that must be analyzed for NPDES compliance purposes; and 3) review the test results and compare them against the Department's reporting limits. If there are results where the laboratory's detection limit is higher, the Department recommends that the permittee request an explanation.

Comment #9: The permittee requested that the maximum quantity of septage the facility is authorized to receive be increased from 2,500 gallons per day to 3,000 gallons per day.

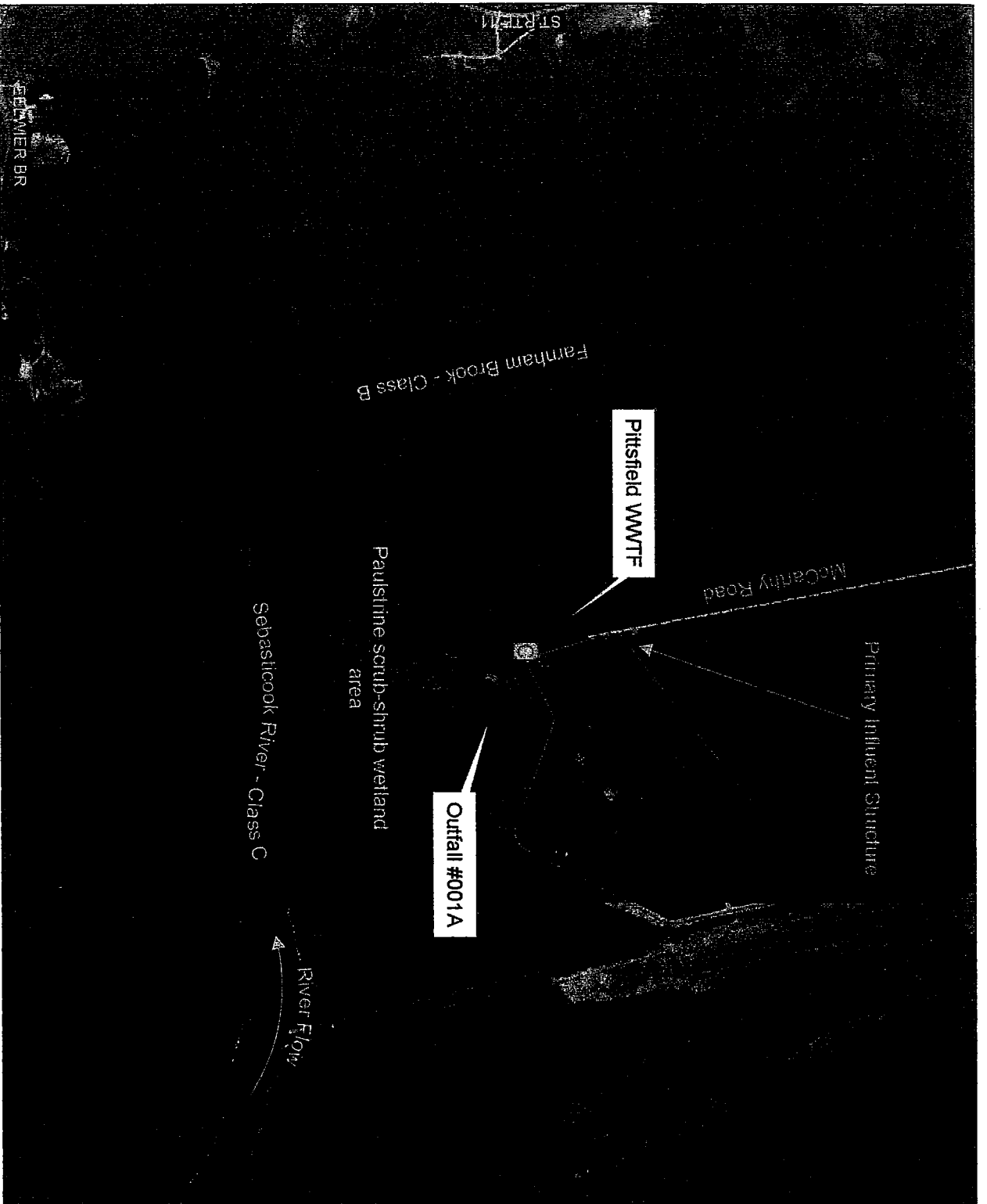
Response #9: The Department has modified Special Condition K of this permit, *Disposal of Septage Waste in Waste Water Treatment Facility* to allow the permittee to accept up to 3,000 gallons of septage waste per day.

10. RESPONSE TO COMMENTS (cont'd)

Comment # 10: The permittee adamantly opposes the newly proposed requirements as stated in Special Condition G of the proposed permit, *Limitations for Industrial Users*. The permittee stated that the requirement to develop and implement a pretreatment program is excessive for a community the size of Pittsfield. The permittee stated that it is willing to take on some of the responsibilities, such as performing an industrial user survey and updating its sewer use ordinance in order to regulate industries. The permittee expressed concern that Federal regulation 40 CFR Part 403.8 requires the POTW to implement a pretreatment program within one year and that the Town does not have the staff to manage such a program and that costs to implement the program could exceed \$10,000 annually. The permittee further stated that the total contribution from industrial users is less than 10% and that industrial contribution has never resulted in interferences or pass-through of the treatment facility.

Response #10: The Department has considered the comments of the Town of Pittsfield regarding proposed Special Condition G, *Limitations for Industrial Users*, and has eliminated this condition from the final permit. The Department recognizes the Town's willingness to improve controls on industrial users and will continue to work cooperatively with the Town to assist in developing appropriate controls on industrial users outside the requirements of this permit to the extent practical.

ATTACHMENT A



Pittsfield, Maine



Map created by:
 Bill Hinkel
 Division of Water Resource Regulation
 Maine Department of Environmental Protection
 May 3, 2004

Legend

- Wastewater_Facilities
- Wastewater_Outfalls
- Streams

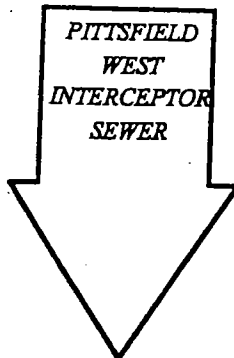
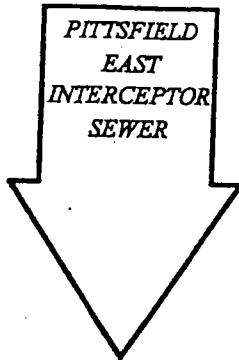
Roads

JURISDICTION

- Town Road
- Town Road - Summer
- Town Road - Winter
- State-aided Highway
- State Highway
- Toll Highway
- Private Road
- Reservation Road
- Seasonal Parkway



ATTACHMENT B

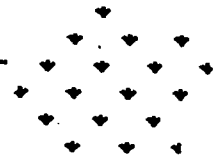
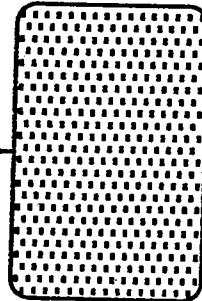
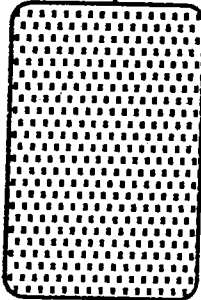


PRETREATMENT

SECONDARY TREATMENT

FACULATIVE LAGOONS

WETLAND AREA
(PEAT BOG)



PITTSFIELD WASTEWATER TREATMENT FACILITY
PITTSFIELD, ME

WASTEWATER FLOW SCHEMATIC

ACHERON ENGINEERING SERVICES
Engineering, Environmental & Geologic Consultants
207-388-8700 Newport, Maine www.AcheronEngineering.com

JOB NO:	2422	DWG NO:	A-1113
SCALE:	NTS	DATE:	3/27/03

Plot Date: 3/27/03, File: A-1113
Plot Scale: NTS, Drawn By: PD

ATTACHMENT C

Species	Test	Test Result %	Sample Date
FATHEAD	C_NOEL	100	07/09/1993
FATHEAD	LC50	>100	07/09/1993
WATER FLEA	A_NOEL	100	09/17/1993
WATER FLEA	C_NOEL	50	09/17/1993
WATER FLEA	LC50	>100	09/17/1993
FATHEAD	C_NOEL	100	11/16/1994
FATHEAD	LC50	>100	11/16/1994
WATER FLEA	C_NOEL	100	11/16/1994
WATER FLEA	LC50	>100	11/16/1994
FATHEAD	A_NOEL	100	10/19/1995
FATHEAD	C_NOEL	100	10/19/1995
FATHEAD	LC50	>100	10/19/1995
WATER FLEA	A_NOEL	100	10/19/1995
WATER FLEA	C_NOEL	50	10/19/1995
WATER FLEA	LC50	>100	10/19/1995
WATER FLEA	A_NOEL	100	11/09/1995
WATER FLEA	C_NOEL	100	11/09/1995
WATER FLEA	LC50	>100	11/09/1995
FATHEAD	A_NOEL	100	07/18/1996
FATHEAD	C_NOEL	<5	07/18/1996
FATHEAD	LC50	>100	07/18/1996
WATER FLEA	A_NOEL	100	07/18/1996
WATER FLEA	C_NOEL	5	07/18/1996
WATER FLEA	LC50	>100	07/18/1996
FATHEAD	A_NOEL	100	09/09/1997
FATHEAD	C_NOEL	100	09/09/1997
FATHEAD	LC50	>100	09/09/1997
WATER FLEA	A_NOEL	100	09/09/1997
WATER FLEA	C_NOEL	50	09/09/1997
WATER FLEA	LC50	>100	09/09/1997
FATHEAD	A_NOEL	100	10/19/1998
FATHEAD	C_NOEL	100	10/19/1998
FATHEAD	LC50	>100	10/19/1998
WATER FLEA	A_NOEL	100	10/19/1998
WATER FLEA	C_NOEL	100	10/19/1998
WATER FLEA	LC50	>100	10/19/1998
FATHEAD	A_NOEL	100	09/24/1999
FATHEAD	C_NOEL	100	09/24/1999
FATHEAD	LC50	>100	09/24/1999
WATER FLEA	A_NOEL	100	09/24/1999
WATER FLEA	C_NOEL	100	09/24/1999
WATER FLEA	LC50	>100	09/24/1999

ATTACHMENT D

PITTSFIELD

SEBASTICOOK RIVER

09/24/1999	18
10/06/1999	1
11/21/1999	1
01/19/2000	1
06/28/2000	1
11/08/2000	1
03/08/2001	2
04/17/2001	1
07/16/2002	1
04/25/2003	1
01/15/2004	1

PITTSFIELD
EBASTICOOK RIVER

OPPER					
DL = 3 ug/l	Conc, ug/l	MDL	Sample Date	Date Entered	
	4.000000	OK	09/24/1999	10/27/1999	

LEAD					
DL = 3 ug/l	Conc, ug/l	MDL	Sample Date	Date Entered	
	4.000000	OK	09/24/1999	10/27/1999	

INC					
DL = 5.0 ug/l	Conc, ug/l	MDL	Sample Date	Date Entered	
	30.000000	OK	09/24/1999	10/27/1999	
