



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

April 3, 2014

Mr. Carl Flora  
President and CEO  
Loring Development Authority  
154 Development Drive Suite F  
Limestone, Maine 04750  
[cflora@loring.org](mailto:cflora@loring.org)

*Transmitted via electronic mail  
Delivery confirmation requested*

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102581  
Maine Waste Discharge License (WDL) Application #W007926-5S-F-R  
**Proposed Draft Permit**

Dear Mr. Flora:

Enclosed is a **proposed draft** MEPDES permit and Maine WDL (permit hereinafter) which the Department proposes to issue as a final document after opportunity for your review and comment. By transmittal of this letter you are provided with an opportunity to comment on the proposed draft permit and its conditions (special conditions specific to this permit are enclosed; standard conditions applicable to all permits are available upon request). If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

By copy of this letter, the Department is requesting comments on the proposed draft permit from various state and federal agencies, as required by our new regulations, and from any other parties who have notified the Department of their interest in this matter.

All comments must be received in the Department of Environmental Protection office on or before the close of business **Monday, May 5, 2014**. Failure to submit comments in a timely fashion will result in the final document being issued as drafted. Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection  
Bureau of Land & Water Quality  
Division of Water Quality Management  
17 State House Station  
Augusta, ME 04333

If you have any questions regarding the matter, please feel free to call me at 215-1579.

Sincerely,

A handwritten signature in cursive script that reads "Yvette Meunier".

Yvette M. Meunier  
Division of Water Quality Management  
Bureau of Land and Water Quality

Enc.

cc: Bill Sheehan, DEP/NMRO  
Fred Corey, Aroostook Band of Micmac Indians  
Ivy Frignoca, CLF  
Oliver Cox, MeDMR  
Lori Mitchell, DEP/CMRO  
Susan Meidel, DEP/CMRO  
Gail Wippelhauser, MeDMR  
Pam Parker, DEP/CMRO  
Barry Mower, DEP/CMRO  
Sharri Venno, Houlton Band of Maliseet Indians  
Dale Mitchell, Passamaquoddy Tribal Government  
Brian Pitt, EPA  
Alex Rosenberg, EPA  
David Pincumbe, EPA  
Olga Vergara, EPA



DEPARTMENT ORDER

IN THE MATTER OF

LORING DEVELOPMENT AUTHORITY ) MAINE POLLUTANT DISCHARGE  
CARIBOU, AROOSTOOK COUNTY, MAINE ) ELIMINATION SYSTEM PERMIT  
DRINKING WATER TREATMENT PLANT ) AND  
#ME0102581 ) WASTE DISCHARGE LICENSE  
#W007926-5S-F-R **APPROVAL** ) **RENEWAL**

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S.A. §§ 411 – 424-B, *Water Classification Program*, 38 M.R.S.A. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, and applicable rules of the Department of Environmental Protection (Department), the Department has considered the application of the LORING DEVELOPMENT AUTHORITY (LDA), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

**APPLICATION SUMMARY**

On January 30, 2014, the Department accepted as complete for processing, a renewal application for Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102581/ Waste Discharge License (WDL) #007926-5S-E-R, which was issued on April 15, 2009 for a five-year term. The 4/15/09 permit authorized LDA to discharge a monthly average discharge of 0.080 million gallons per day (MGD) of filter cleaning (backwash) wastewaters and settling tank wastewaters from a quasi-municipal drinking water treatment plant to the Little Madawaska River, Class B, in Caribou, Maine.

**PERMIT SUMMARY**

This permitting action is carrying forward all the terms and conditions of the previous permitting actions.

**CONCLUSIONS**

Based on the findings summarized in the attached **PROPOSED DRAFT** Fact Sheet dated **April 3, 2014** and subject to the special and standard conditions that follow, 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.

### **CONCLUSIONS (cont'd)**

3. The provisions of the State's antidegradation policy, *Classification of Maine waters*, 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 national 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 as defined in *Conditions of licenses*, 38 M.R.S.A. § 414-A(1)(D).

**ACTION**

Based on the findings and conclusions as stated above, the Department APPROVES the above noted application of the LORING DEVELOPMENT AUTHORITY to discharge a monthly average of 0.080 MGD of filter cleaning (backwash) wastewater and settling tank wastewater from a quasi-municipal drinking water treatment plant via Outfall #001A to the Little Madawaska River, Class B, in Caribou, 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. This permit and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the authorization to discharge and the terms and conditions of this permit and all modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S.A. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (amended August 25, 2013)].

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
PATRICIA W. AHO, Commissioner

Date filed with Board of Environmental Protection: \_\_\_\_\_.

Date of initial receipt of application: January 30, 2014

Date of application acceptance: January 31, 2014

This Order prepared by Yvette M. Meunier, BUREAU OF LAND & WATER QUALITY

**SPECIAL CONDITIONS**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. The permittee is authorized to discharge **drinking water filter cleaning (backwash) wastewater, and settling tank wastewater from Outfall #001A** to the Little Madawaska River. Such discharges must be limited and monitored by the permittee as specified below<sup>(1)</sup>:

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow <i>[50050]</i>	0.080 MGD <i>[03]</i>	Report MGD <i>[03]</i>	---	---	2/Month <i>[02/30]</i>	Metered <i>[MT]</i>
TSS <i>[00530]</i>	20 lbs/day <i>[26]</i>	40 lbs/day <i>[26]</i>	30 mg/L <i>[19]</i>	60 mg/L <i>[19]</i>	2/Month <i>[02/30]</i>	Composite <sup>(2)</sup> <i>[CP]</i>
Settleable Solids <i>[00545]</i>	---	---	---	0.3 ml/L <i>[25]</i>	2/Month <i>[02/30]</i>	Composite <sup>(2)</sup> <i>[CP]</i>
pH <i>[00400]</i>	---	---	---	6.0 – 9.0 SU <i>[12]</i>	2/Month <i>[02/30]</i>	Grab <i>[GR]</i>

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 (DMRs).

**FOOTNOTES:** See Page 5 of this permit for the applicable footnotes.

## SPECIAL CONDITIONS

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

#### FOOTNOTES:

- 1. Sampling** – All effluent monitoring must be conducted at a location following the last treatment unit in the treatment process, including dechlorination, as to be representative of end-of-pipe effluent characteristics. Any change in sampling location must be approved by the Department in writing. The permittee must conduct sampling and analysis 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 must be analyzed by a laboratory certified by the State of Maine’s Department of Health and Human Services for wastewater. Samples that are sent to a POTW licensed pursuant to Waste discharge licenses, 38 M.R.S.A. §413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (effective April 1, 2010). If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report.

All analytical test results must be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department or as specified by other approved test methods. If a non-detect analytical test result is below the respective RL, the concentration result must be reported as <Y where Y is the RL achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL or reporting an estimated value (“J” flagged) is not acceptable and will be rejected by the Department. Reporting analytical data and its use in calculations must follow established Department guidelines specified in this permit or in available Department guidance documents.

- 2. Composite Samples** – Samples must consists of four equally-spaced grab samples collected during a single operating day, or other sampling protocol approved for this facility by the Department.

### B. NARRATIVE EFFLUENT LIMITATIONS

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the usages designated for the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated for the classification of the receiving waters.

## **SPECIAL CONDITIONS**

### **B. NARRATIVE EFFLUENT LIMITATIONS (cont'd)**

3. The permittee must not discharge effluent that causes visible discoloration or turbidity in the receiving waters that causes those waters to be unsuitable for the designated uses and characteristics ascribed to their class.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers the existing quality of any body of water if the existing quality is higher than the classification.

### **C. AUTHORIZED DISCHARGES**

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on January 31, 2014; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. Discharges of wastewater from any other point source are not authorized under this permit, and must be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

### **D. NOTIFICATION REQUIREMENT**

In accordance with Standard Condition D, the permittee must notify the Department of the following:

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.
2. For the purposes of this section, adequate notice must include information on:
  - a. The quality and quantity of wastewater introduced to the wastewater collection and treatment system; and
  - b. Any anticipated change in the quality and quantity of the wastewater to be discharged from the treatment system.

### **E. MONITORING AND REPORTING**

Monitoring results obtained during the previous month must 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 (13<sup>th</sup>) day of the month or hand-delivered to the Department's Regional Office such that the DMRs are received by the Department on or before the fifteenth (15<sup>th</sup>) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein must be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:



## SPECIAL CONDITIONS

### E. MONITORING AND REPORTING (cont'd)

Department of Environmental Protection  
Bureau of Land and Water Quality  
Division of Water Quality Management  
1235 Central Drive-Skyway Park  
Presque Isle, Maine 04769

Alternatively, if the permittee is submitting an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the fifteenth (15<sup>th</sup>) day of the month following the completed reporting period. Hard Copy documentation submitted in support of the eDMR must be postmarked on or before the thirteenth (13<sup>th</sup>) day of the month or hand-delivered to the Department's Regional Office such that it is received by the Department on or before the 15<sup>th</sup> day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15<sup>th</sup> day of the month following the completed reporting period.

### F. OPERATION & MAINTENANCE (O&M) PLAN

The permittee must maintain a current written comprehensive Operation & Maintenance (O&M) Plan for the facility. The plan must provide a systematic approach by which the permittee must 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 must 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 must 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 must submit the updated O&M Plan to their Department inspector for review and comment.

### G. REOPENING OF PERMIT FOR MODIFICATION

In accordance with 38 M.R.S.A. § 414-A(5) and 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 any time 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 monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information

## **H. SEVERABILITY**

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit must remain in full force and effect, and must be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

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

**PROPOSED DRAFT**  
**FACT SHEET**

DATE: **APRIL 3, 2014**

PERMIT NUMBER: **#ME0102581**

WASTE DISCHARGE LICENSE: **#W007926-5S-F-R**

NAME AND ADDRESS OF APPLICANT:

**LORING DEVELOPMENT AUTHORITY  
154 DEVELOPMENT DRIVE SUITE F  
LIMESTONE, MAINE 04750**

COUNTY: **AROOSTOOK**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

**LORING DEVELOPMENT AUTHORITY  
WATER TREATMENT PLANT  
255 MADAWASKA DAM ROAD  
CARIBOU, MAINE 04736**

RECEIVING WATER CLASSIFICATION: **LITTLE MADAWASKA RIVER / CLASS B**

COGNIZANT OFFICIAL CONTACT INFORMATION:

**MR. CARL FLORA  
(207) 328-7005  
[cflora@loring.org](mailto:cflora@loring.org)**

**1. APPLICATION SUMMARY**

Application: On January 30, 2014, the Department of Environmental Protection (Department) accepted as complete for processing, a renewal application for Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0102581/ Waste Discharge License (WDL) #007926-5S-E-R, which was issued on April 15, 2009 for a five-year term. The 4/15/09 permit authorize Loring Development Authority (LDA) to discharge a monthly average discharge of 0.080 million gallons per day (MGD) of filter cleaning (backwash) wastewater and settling tank wastewater from a quasi-municipal drinking water treatment plant to the Little Madawaska River, Class B, in Caribou, Maine.

**2. PERMIT SUMMARY**

- a. Terms and Conditions: This permitting action is carrying forward all the terms and conditions of the previous permitting actions.

## 2. PERMIT SUMMARY (cont'd)

b. History: The most current relevant regulatory actions include:

March 13, 1986 – The Department issued WDL #W006654-46-A-N to the Loring Air Force Base for the discharge of wastewater from four (4) separate outfall pipes with different effluent characteristics and receiving waters. The WDL permitted the discharge of 2.5 MGD of secondary treated sanitary wastewater via Outfall #001 to the Little Madawaska River, the discharge of an unspecified quantity of filter cleaning (backwash) wastewater via Outfall #002 to the Little Madawaska River, and the discharge of an unspecified quantity of treated storm water from an oil/water separator via Outfall #003 and Outfall #004 to Greenlaw Brook. The 3/13/96 WDL expired on March 13, 1991.

February 5, 1996 – The Department issued WDL #W007926-ZA-C-R to the Air Force Base Conversion Agency (AFBCA) for the daily maximum discharge of 0.08 MGD of filter cleaning backwash wastewaters from a drinking water treatment plant to the Little Madawaska River in Caribou, Maine for a five-year term.

May 7, 1998 – The AFBCA and the LDA submitted a joint application to the Department for the transfer of all licenses and permits issued by the Department from the AFBCA to the LDA.

September 19, 2000 – The U.S. Environmental Protection Agency (USEPA) issued National Pollutant Discharge Elimination System (NPDES) permit #ME0090174 to the LDA for the daily maximum discharge of 0.08 MGD of filter cleaning backwash waste waters from a drinking water treatment plant to the Little Madawaska River via Outfall #001A for a five-year term. The permit also renewed authorization for the discharge of secondary treated sanitary wastewater to the Little Madawaska River via Outfall #001A and treated storm water from an oil/water separator to Greenlaw Brook via Outfall #003A and Outfall #004A.

January 12, 2001 – The Department received authorization from the USEPA to administer the NPDES permit program in Maine, excluding areas of special interest to Maine Indian Tribes. From that point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System program and MEPDES permit #ME0102581 has been utilized as the primary reference number for this facility. On March 26, 2011, the USEPA authorized the Department to administer the MEPDES program in Indian territories of the Penobscot Nation and Passamaquoddy Tribe.

July 2, 2003 – The LDA withdrew its 5/7/98 application for the transfer of State-issued permits and licenses on the bases that certain discharges had been eliminated subsequent to submission of the application and that the Department had issued permits/licenses to newly formed entities subsequent to the application for permit/license transfer.

April 15, 2009 – The Department issued WDL #W007926-5S-E-R / MEPDES Permit #ME0102581 to the LDA for a five-year term. The 4/15/09 permit superseded previous WDLs issued on 6/14/04 and 2/5/96.

## 2. PERMIT SUMMARY (cont'd)

January 30, 2014 – The LDA submitted a timely and complete General Application to the Department for renewal of the April 15, 2009 MEPDES permit. The application was accepted for processing on January 31, 2014, and was assigned WDL #W007926-5S-F-R / MEPDES permit #ME0102581.

- c. Source Description: The LDA operates a drinking water treatment plant on the eastern shore of the Little Madawaska River in Caribou, Maine to supply potable water to a population of approximately 1,400 people living and/or working on the former Loring Air Force base in Limestone. Construction of the facility was completed in 1958. The drinking water treatment facility was designed to treat a monthly average of up to 2.25 million gallons of river water per day, although current potable water production is significantly lower. The LDA obtains raw water from an impoundment created by the Little Madawaska River Dam. A 16-inch diameter intake pipe located approximately 10-15 feet from the eastern shore of the Little Madawaska River serves as the raw water conduit to the treatment facility. The intake pipe is covered by various sized rock that serves as a primary filter for coarse material present in the river.

A map showing the location of the treatment facility and the receiving water is included as Attachment A of this fact sheet.

Raw water is pumped to two (2) 250,000-gallon subsurface settling/flocculation tanks where an aluminum-based coagulant is added to promote flocculation and settling of solids. The flow is then evenly distributed to three (3) downflow dual media filter beds. Following filtration, the flow is conveyed to a 140,000-gallon clearwell. Filtered water is pumped from the clearwell and treated with hypochlorite and hydrofluorosilicic acid.

The sand filter beds must be periodically cleaned through filter backwash procedures to remove the accumulation of filtered material and to ensure proper and efficient function of the filter media.

- d. Wastewater Treatment: The facility generates wastewater from two distinct processes: 1) sand filter cleaning events that include a backwash cycle that is performed once every 50 hours of operation; and 2) settling/flocculation tank drain-down events that performed twice a year, during the spring and the fall, on average.

Currently, the LDA initiates a filter cleaning cycle after each 24-hour period of operation, although the treatment plant operator may initiate a backwash following observations of filter headloss or filter break-through. Each filter cleaning cycle generates a total of approximately 30,000 gallons of wastewater. Two of the three filter units are cleaned once each month, on average, which generates a total of approximately 90,000 gallons of wastewater per week. In addition to the weekly filter cleaning cycles, the facility also generates up to approximately 250,000 gallons of wastewater at a time from the periodic draining of the 250,000-gallon settling/coagulation/flocculation tank utilized during the treatment of the source waters. All wastewater generated from these processes is conveyed to an enclosed structure referred to as the coagulation building, which consists of a 40,000-gallon settling tank and a 400,000-gallon settling/flow equalization tank as described in the following paragraphs.

## 2. PERMIT SUMMARY(cont'd)

Filter cleaning cycles are manually initiated by closing a valve on the filter influent line and opening a drain at the bottom of the filter bed. This procedure drains approximately 9,000 gallons of unfiltered or partially-filtered water remaining in the bed to the 60,000-gallon settling tank. After the filter bed has been drained, filtered water is pumped from the clearwell up through the filter bed (backwash) at a rate of 3,400 gallons per minute for a total of 8 to 9 minutes, which generates approximately 30,000 gallons of wastewater. Wastewater is pumped from the 40,000-gallon settling tank to one of two (2) settling/treatment lagoons. The lagoons were designed to settle solids and drain supernatant through an outfall to the Little Madawaska River.

Each of the two 250,000-gallon settling/coagulation/flocculation tanks are drained for cleaning and sludge removal once during the fall and once during the spring. The LDA alternates the tank cleaning events such that only one tank is drained for cleaning at a time. Wastewater generated during the tank draining sequence is conveyed to the 400,000-gallon settling/flow equalization tank located within the coagulation building. The wastewater is pumped to one of the two lagoon cells for additional settling prior to discharge.

The LDA utilizes two sedimentation lagoon cells in parallel such that wastewater is discharged to only one cell at any given time. Each cell measures approximately 260 feet long by 100 feet wide. The lagoons were constructed with a gravel based material. Each lagoon cell was designed such that supernatant decants to an overflow weir and into a collection system comprised of 8-inch diameter PVC pipe material. The effluent collection system was designed to convey treated wastewater to the Little Madawaska River in Caribou for discharge. Outfall #001A terminates in a concrete headwall approximately 50 feet inland from the normal high water line of the river. The outfall structure was designed such that wastewater exits the pipe and flows through a vegetated swale which serves as a conduit to the river. Based on this design, wastewater discharge from Outfall #001A is not considered to achieve complete and rapid mixing with the receiving water.

The LDA maintains an 18-inch diameter emergency overflow pipe, which is connected to the 40,000-gallon settling tank basin located within the coagulation building and a 24-inch diameter emergency overflow pipe, which is connected to the 400,000-gallon settling/flow equalization basin. The pipes are designed to capture wastewater that exceeds the capacity of the two settling basins and convey the waste for discharge, via a vegetated swale, to the Little Madawaska River at a location immediately adjacent to Outfall #001A. The LDA reported that there have been no known discharges via these emergency overflow pipes since the facility was constructed due, in part, to the ability to pump excess water directly to the treatment lagoons. Special Condition C of this permit, *Authorized Discharges*, prohibits the LDA from discharging wastewater from any other point source other than Outfall #001A and requires that the discharge from any other point source be reported to the Department in accordance with Standard Condition B(5), *Bypasses*, of this permit. This prohibition applies to the discharge of wastewater from either of the LDA's two emergency overflow pipes located in the coagulation building.

### 3. CONDITIONS OF PERMIT

*Conditions of licenses*, 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 the 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, *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective March 21, 2012) require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (last amended July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

### 4. RECEIVING WATER QUALITY STANDARDS

*Classification of major river basins*, 38 M.R.S.A. § 467(15)(C)(2)(a) classifies the Little Madawaska River at the point of discharge as a Class B waterway. *Standards for classification of fresh surface waters*, 38 M.R.S.A. § 465(3) describes the standards for Class B waters.

### 5. RECEIVING WATER QUALITY CONDITIONS

*The State of Maine 2010 Integrated Water Quality Monitoring and Assessment Report* (Report), prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists 20.5-mile reach of the Little Madawaska River, (ADB Assessment Unit ID ME0101000413\_145R01), which includes the receiving water at the point of discharge, as, “*Category 4-B: Rivers and Streams Impaired By Pollutants, Pollution Control Requirements Reasonably Expected To Result In Attainment.*” Impairment in this context refers to a fish consumption advisory due to presence of PCPs in fish tissue resulting from the Loring Air Force Base Superfund Site. The Report indicates that the superfund remediation project has been completed and that the receiving water is expected to attain standards in 2020. The Department has no information at this time that the discharge from the LDA causes or contributes to the non-attainment status of the river or of the standards for Class B waters.

The Report lists all of Maine’s fresh waters as, “*Category 4-A: Waters Impaired by Atmospheric Deposition of Mercury.*” Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, “All freshwaters are listed in Category 4A (TMDL Completed) due to USEPA approval of a Regional Mercury TMDL. Maine has a fish consumption advisory for fish taken from all freshwaters due to mercury. Many waters, and many fish from any given water, do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption. Maine has already instituted statewide programs for removal and reduction of mercury sources.”

The Department has no information at this time that the discharge from the LDA, as permitted, will cause or contribute to the failure of the receiving water to meet the designated uses of its ascribed classification.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

- a. Flow: The previous permitting action established, and this permitting action is carrying forward, a daily maximum discharge flow reporting requirement and a monthly average discharge flow limitation of 0.080 MGD, which is considered representative of wastewater flows generated by this facility.

A summary of the discharge flow data as reported on the monthly Discharge Monitoring Reports (DMRs) for the period of May 2009 through May 2013 is as follows:

Discharge Flow	Minimum	Maximum	Arithmetic Mean	# DMRs
Monthly Average	0.00 MGD	0.07 MGD	0.013 MGD	49
Daily Maximum	0.00 MGD	0.08 MGD	0.025 MGD	47

This permitting action is maintaining the previously established minimum monitoring frequency requirement for discharge flow of twice per month based on Department best professional judgment.

- b. Dilution Factors: Dilution factors associated with the permitted discharge flow of 0.080 MGD were derived in accordance with 06-096 CMR 530(4)(A) and were calculated as follows:

$$\text{Mod. Acute: } \frac{1}{4} Q_{10} = 4.74 \text{ cfs} \quad \Rightarrow \frac{(4.74 \text{ cfs})(0.6464) + 0.080 \text{ MGD}}{0.080 \text{ MGD}} = 39.3:1$$

$$\text{Acute: } 1Q_{10} = 22.5 \text{ cfs} \quad \Rightarrow \frac{(22.5 \text{ cfs})(0.6464) + 0.080 \text{ MGD}}{0.080 \text{ MGD}} = 182.8:1$$

$$\text{Chronic: } 7Q_{10} = 26.5 \text{ cfs} \quad \Rightarrow \frac{(22.9 \text{ cfs})(0.6464) + 0.080 \text{ MGD}}{0.080 \text{ MGD}} = 186.0:1$$

$$\text{Harmonic Mean: } 7Q_{10} = 84.0 \text{ cfs} \quad \Rightarrow \frac{(84.0 \text{ cfs})(0.6464) + 0.080 \text{ MGD}}{0.080 \text{ MGD}} = 679.7:1$$

06-096 CMR 530(4)(B)(1) states,

*Analyses using numerical acute criteria for aquatic life must be based on 1/4 of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone and to ensure a zone of passage of at least 3/4 of the cross-sectional area of any stream as required by Chapter 581. Where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design flow, up to and including all of it, as long as the required zone of passage is maintained.*



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

The LDA's outfall pipe terminates above the normal high water mark of the Little Madawaska River and is therefore not considered to achieve rapid and complete mixing with the receiving water. Consequently, the Department is utilizing the default stream flow of 1/4 of the 1Q10 in acute evaluations.

- c. Total Suspended Solids (TSS): The previous permitting action established, and this permitting action is carrying forward, monthly average and daily maximum concentration limits of 30 mg/L and 60 mg/L, respectively, based on Department best professional judgment of best practicable treatment for discharges from drinking water treatment facilities in Maine. The previous permitting action established, and this permitting action is carrying forward, monthly average and daily maximum mass limits of 20 lbs/day and 40 lbs/day, respectively, for TSS. The mass limits were derived using the concentration limits specified above, the previous discharge flow limit of 0.080 MGD associated with the 6/14/2004 WDL, and a conversion factor of 8.34 lbs/gallon of water as follows:

$$\text{Monthly Average Mass: } (30 \text{ mg/L})(8.34 \text{ lbs/gallon})(0.080 \text{ MGD}) = 20 \text{ lbs/day}$$

$$\text{Daily Maximum Mass: } (60 \text{ mg/L})(8.34 \text{ lbs/gallon})(0.080 \text{ MGD}) = 40 \text{ lbs/day}$$

A summary of TSS data as reported on the monthly DMRs for the period of May 2009 through May 2013 is as follows:

TSS	Minimum	Maximum	Arithmetic Mean	# DMRs	Permit Limits
Monthly Average	0.0 lbs/day	0.50 lbs/day	0.10 lbs/day	49	20 lbs/day
	2.0 mg/L	3.05 mg/L	2.11 mg/L	49	30 mg/L
Daily Maximum	0.01 lbs/day	1.00 lbs/day	0.16 lbs/day	49	40 lbs/day
	2.0 mg/L	3.60 mg/L	2.18 mg/L	49	60 mg/L

On April 19, 1996, the USEPA issued a guidance document entitled, "*Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies*" (USEPA 1996) as the basis for determining reduced monitoring frequencies. The guidance document was issued to reduce unnecessary reporting while at the same time maintaining a high level of environmental protection for facilities that have a good compliance record and pollutant discharges at levels below permit requirements. Monitoring requirements are not considered effluent limitations under section 402(o) of the Clean Water Act and therefore, anti-backsliding prohibitions would not be triggered by reductions in monitoring frequencies.

The USEPA guidance indicates "...the basic premise underlying a performance-based reduction approach is that maintaining a low average discharge relative to the permit limits results in a low probability of the occurrence of a violation for a wide range of sampling frequencies." The monitoring frequency reductions in USEPA's guidance were designed to maintain approximately the same level of reported violations as that experienced with the existing baseline sampling frequency in the permit. To establish baseline performance the long term average (LTA) discharge rate for each parameter is calculated using the most recent two-year data set of monthly average effluent data representative of current operating conditions.

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

The LTA/permit limit ratio is calculated and then compared to the matrix in Table I of USEPA's guidance to determine the potential monitoring frequency reduction. It is noted Table I of USEPA's guidance was derived from a probability table that used an 80% effluent variability or coefficient of variation (cv). The permitting authority can take into consideration further reductions in the monitoring frequencies if the actual cv for the facility is significantly lower than the default 80% utilized by the USEPA in Table I.

In addition to the parameter-by-parameter performance history via the statistical evaluation cited above, the USEPA recommends the permitting authority take into consideration the facility enforcement history and the parameter-by-parameter compliance history and factors specific to the State or facility. If the facility has already been given monitoring reductions due to superior performance, the baseline may be a previous permit.

Although USEPA's 1996 guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering 36 months of data (October 2009 through October 2012). A review of the monitoring data for TSS indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

Long term average = 0.095 lbs/day  
Monthly maximum limit = 20 lbs/day  
Current monitoring frequency = 2/Week

Ratio =  $\frac{0.095 \text{ lbs/day}}{20 \text{ lbs/day}} = 0.5\%$

According to Table I of the USEPA guidance, a 2/Month monitoring requirement cannot be further reduced. Therefore, the monitoring frequency requirement for TSS remains at twice per month based on best professional judgment.

- d. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a BPT for discharges from drinking water treatment facilities in Maine.

A summary of settleable solids data as reported on the monthly DMRs for the period of May 2009 through May 2013 (#DMRs = 48) indicates the daily maximum settleable solids concentration discharge has been 0.1 ml/L or less 100% of the time and in 100% compliance with the 0.3 ml/L limit during the specified monitoring period.

A review of the monitoring data for settleable solids indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

Long term average = 0.1 ml/L  
Daily maximum limit = 0.3 ml/L  
Current monitoring frequency = 2/Month

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

$$\text{Ratio} = \frac{0.1 \text{ ml/L}}{0.3 \text{ ml/L}} = 33\%$$

According to Table I of the USEPA guidance, a 2/Month monitoring requirement cannot be further reduced. Therefore, the monitoring frequency requirement for settleable solids remains at twice per month based on best professional judgment.

- e. **pH:** The previous permitting action established, and this permitting action is carrying forward, a pH range limit of 6.0 – 9.0 standard units (SU).

A summary of effluent pH data as reported on the monthly DMRs for the period of May 2009 through May 2013 (#DMRs = 49 indicates the pH value has ranged from 6.6 SU to 8.3 SU. The facility has been in compliance with the 6.0 – 9.0 SU pH range limitation 100% of the time during the specified monitoring period.

This permitting action is carrying forward a minimum monitoring frequency requirement of twice per month for pH based on Department BPJ.

## 7. PUBLIC COMMENTS

Public notice of this application was made in the *Aroostook Republican* newspaper on or about January 30, 2014. 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 *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

## 8. DEPARTMENT CONTACTS

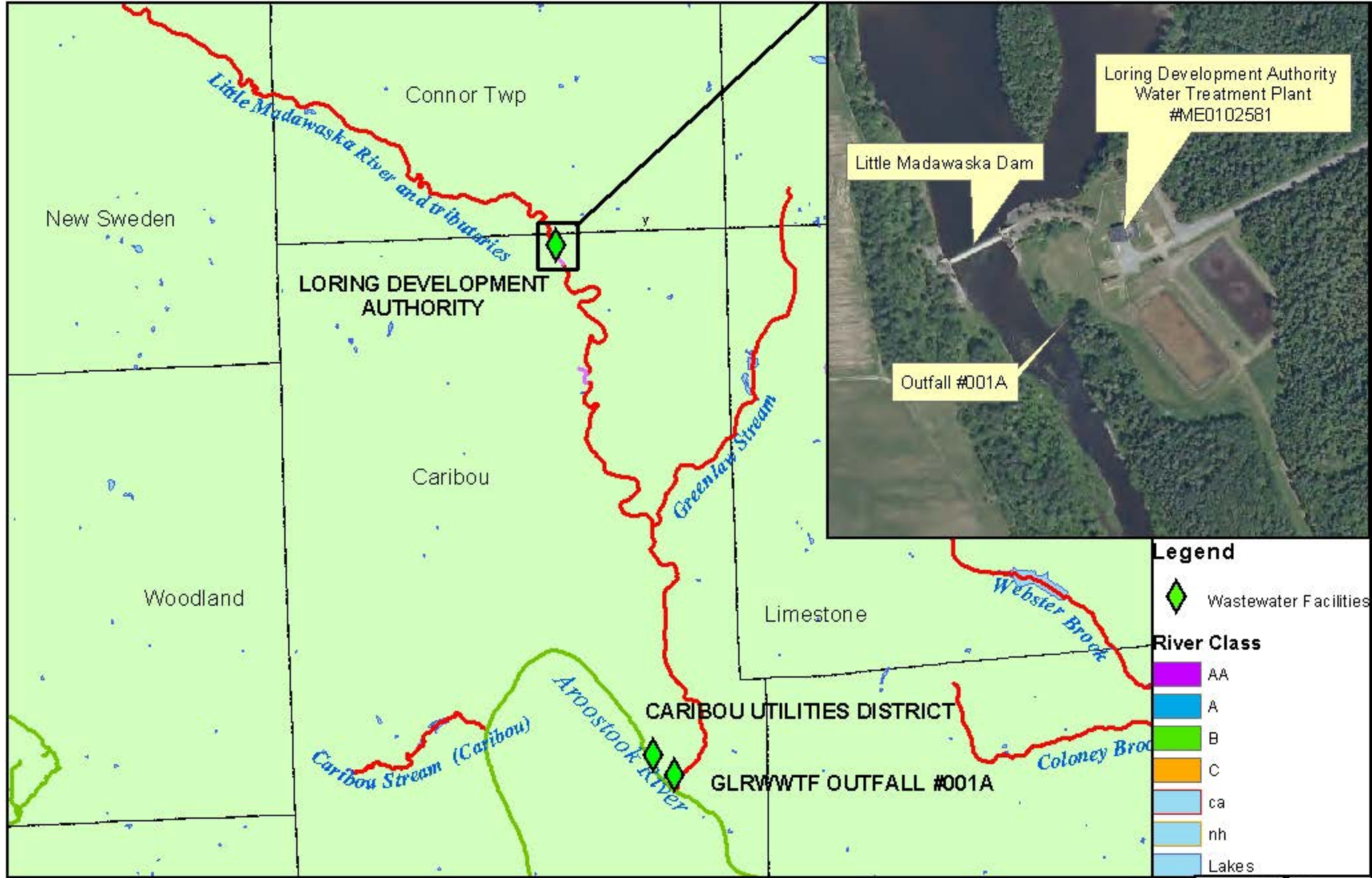
Additional information concerning this permitting action may be obtained from, and written comments sent to:

Yvette M. Meunier  
Division of Water Quality Management  
Bureau of Land & Water Quality  
Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017 Telephone: (207) 215-1579 Fax: (207) 287-3435  
e-mail: [yvette.meunier@maine.gov](mailto:yvette.meunier@maine.gov)

## 9. RESPONSE TO COMMENTS

*Reserved until the end of the public comment period.*

# ATTACHMENT A



# Caribou, Loring Development Authority

Map Created by Maine DEP  
November 22, 2013

