STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

May 10, 2007

DAVID P. LITTELL
COMMISSIONER

Mr. Rodney Deschaine
Fort Fairfield Utilities District
P.O. Box 267 100 High Street
Fort Fairfield, Maine 04742

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100226
Maine Waste Discharge License (WDL) Application #W000694-5M-D-R
Final MEPDES Permit/WDL

Dear Mr. Deschaine:

Enclosed, please find a copy of your **final** MEPDES permit and Maine WDL, which was approved by the Department of Environmental Protection. 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.*"

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

Sincerely,

Bill Hinkel
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

cc: Bill Sheehan, DEP
Lori Mitchell, DEP
Sandy Lao, USEPA
File #694

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

DEPARTMENT ORDER

IN THE MATTER OF

FORT FAIRFIELD UTILITIES DISTRICT	)	MAINE POLLUTANT DISCHARGE
FORT FAIRFIELD, AROOSTOOK COUNTY	)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS	)	AND
#ME0100226	)	WASTE DISCHARGE LICENSE
#W000694-5M-D-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 Maine Department of Environmental Protection (Department) has considered the application of FORT FAIRFIELD UTILITIES DISTRICT (FFUD), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The FFUD has applied to the Department for a renewal of Waste Discharge License (WDL) #W000694-5M-C-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100226, which was issued on April 26, 2001, and expired on April 26, 2006. The 4/26/01 MEPDES permit authorized the monthly average discharge of up to 0.6 million gallons per day (MGD) of combined secondary treated sanitary wastewater and industrial wastewater from a publicly owned treatment works (POTW) to the Aroostook River, Class C, in Fort Fairfield, Maine.

On April 1, 2002, the FFUD began accepting industrial wastewater from Aroostook Starch, LLC for treatment. During 2002, the FFUD began accepting landfill leachate for treatment.

On April 10, 2006, the Department modified the 4/26/01 permit to incorporate testing requirements of Department rule Chapter 530 (the toxics rule).

PERMIT SUMMARY

This permitting action is similar to the 4/26/01 permitting action and 4/10/06 modification in that it is:

1. Carrying forward the monthly average discharge flow limit of 0.6 MGD;

2. Carrying forward the daily maximum technology-based concentration limit for settleable solids;

3. Carrying forward the seasonal monthly average and daily maximum concentration limits for *Escherichia coli* bacteria;

4. Carrying forward the water quality-based daily maximum concentration limit for total residual chlorine (TRC);

5. Carrying forward the pH range limit of 6.0 to 9.0 standard units (SU);

6. Carrying forward the daily maximum concentration reporting requirements for total phosphorus and orthophosphate;

7. Carrying forward the whole effluent toxicity (WET), chemical specific and analytical chemistry testing requirements; and

8. Carrying forward the minimum monitoring frequency requirements for discharge flow, biochemical oxygen demand (BOD_5), total suspended solids (TSS), settleable solids, TRC and pH.

This permitting action is different from the 4/26/01 permitting action and 4/10/06 modification in that it is:

1. Establishing a daily maximum discharge flow reporting requirement;

2. Revising the monthly average and daily maximum mass limitations for BOD_5 and TSS;

3. Establishing three tiers of technology-based concentration and mass limitations for BOD_5, and TSS;

4. Establishing monthly average concentration and mass reporting requirements and a daily maximum mass reporting requirement for total phosphorus and orthophosphate;

5. Establishing Special Condition I, *Chapter 530(2)(D)(4) Statement for Reduced/Waived Toxics Testing*, for waived surveillance level WET, chemical specific and analytical chemistry testing pursuant to Department rue Chapter 530;

6. Eliminating the daily maximum concentration limit for oil and grease;

7. Eliminating the annual biosolids disposal reporting requirement (previous Special Condition L); and

8. Revising the minimum monitoring frequency requirements for *E. coli* bacteria, total phosphorus, and orthophosphate.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated May 7, 2007, 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 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 Maine law, 38 M.R.S.A., §414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of the FORT FAIRFIELD UTILITIES DISTRICT to discharge a monthly average flow of up to 0.6 million gallons per day of combined secondary treated sanitary wastewater and industrial wastewater to the Aroostook River, Class C, in Fort Fairfield, 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 May, 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 7, 2006
Date of application acceptance: February 7, 2006

FILED
MAY 10 2007
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection: _____.

This Order prepared by William F. Hinkel, BUREAU OF LAND & WATER QUALITY
#ME0100226 / #W000694-5M-D-R May 7, 2007

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **secondary treated municipal (sanitary and industrial) waste waters from Outfall #001A** to the Aroostook River at Fort Fairfield. Such discharges shall be limited and monitored by the permittee as specified below[1]:

Effluent Characteristic	Discharge Limitations			Minimum Monitoring Requirements				
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	0.6 MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
BOD_5 Tier I[2] *[00310]*	424 lbs./day *[26]*	---	853 lbs./day *[26]*	127 mg/L *[19]*	---	256 mg/L *[19]*	3/Week *[03/07]*	24-Hour Composite *[24]*
BOD_5 Tier II[2] *[00310]*	150 lbs./day *[26]*	225 lbs./day *[26]*	250 lbs./day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	3/Week *[03/07]*	24-Hour Composite *[24]*
BOD_5 Tier III[2] *[00310]*	788 lbs./day *[26]*	---	1,581 lbs./day *[26]*	157 mg/L *[19]*	---	316 mg/L *[19]*	3/Week *[03/07]*	24-Hour Composite *[24]*
TSS Tier I[2] *[00530]*	418 lbs./day *[26]*	---	822 lbs./day *[26]*	125 mg/L *[19]*	---	247 mg/L *[19]*	3/Week *[03/07]*	24-Hour Composite *[24]*
TSS Tier II[2] *[00530]*	150 lbs./day *[26]*	225 lbs./day *[26]*	250 lbs./day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L *[19]*	3/Week *[03/07]*	24-Hour Composite *[24]*
TSS Tier III[2] *[00530]*	782 lbs./day *[26]*	---	1,550 lbs./day *[26]*	156 mg/L *[19]*	---	310 mg/L *[19]*	3/Week *[03/07]*	24-Hour Composite *[24]*

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 8 through 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

1. The permittee is authorized to discharge **secondary treated municipal (sanitary and industrial) waste waters from Outfall #001A** to the Aroostook River at Fort Fairfield. Such discharges shall be limited and monitored by the permittee as specified below[1]:

Effluent Characteristic	Discharge Limitations					Minimum Monitoring Requirements		
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Settleable Solids *[00545]*	---	---	---	---		0.3 ml/L *[25]*	1/Day *[01/01]*	Grab *[GR]*
***E. coli* Bacteria[3] (May 15 – Sept. 30)** *[31633]*	---	---	---	142/100 ml[4] *[13]*	---	949/100 ml *[13]*	2/Week *[02/07]*	Grab *[GR]*
Total Residual Chlorine[5] *[50060]*	---	---	---	---	---	0.83 mg/L *[19]*	1/Day *[01/01]*	Grab *[GR]*
pH *[00400]*	---	---	---	---	---	6.0 – 9.0 SU *[12]*	1/Day *[01/01]*	Grab *[GR]*
Orthophosphate[6] (June 1 – Sept. 30) *[04175]*	Report lbs./day *[26]*	---	Report lbs./day *[26]*	Report mg/L *[19]*	---	Report mg/L *[19]*	2/Month *[02/30]*	24-Hour Composite *[24]*
Total Phosphorus[7] (June 1 – Sept. 30) *[00665]*	Report lbs./day *[26]*	---	Report lbs./day *[26]*	Report mg/L *[19]*	---	Report mg/L *[19]*	2/Month *[02/30]*	24-Hour Composite *[24]*

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 8 through 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

2. **SCREENING LEVEL TESTING.** During the period **beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter** for **Outfall #001A**, the permittee shall perform WHOLE EFFLUENT TOXICITY (WET), PRIORITY POLLUTANT, AND ANALYTICAL CHEMISTRY TESTING as follows:

WHOLE EFFLUENT TOXICITY (WET) [8]	Daily Maximum	Minimum Frequency	Sample Type
Acute No Observed Effect Level (A-NOEL)			
Water Flea (*Ceriodaphnia dubia*) *[TDA3B]*	Report % *[23]*	1/Year *[01/YR]*	24-Hour Composite *[24]*
Brook Trout (*Salvelinus fontinalis*) *[TDA6F]*	Report % *[23]*	1/Year *[01/YR]*	24-Hour Composite *[24]*
Chronic No Observed Effect Level (C-NOEL)			
Water Flea (*Ceriodaphnia dubia*) *[TBP3B]*	Report % *[23]*	1/Year *[01/YR]*	24-Hour Composite *[24]*
Brook Trout (*Salvelinus fontinalis*) *[TBQ6F]*	Report % *[23]*	1/Year *[01/YR]*	24-Hour Composite *[24]*
ANALYTICAL CHEMISTRY[9] *[51168]*	Report µg/L *[28]*	1/Quarter *[01/90]*	24-Hour Composite/Grab *[24/GR]*
PRIORITY POLLUTANT [10] *[50008]*	Report µg/L *[28]*	1/Year *[01/YR]*	24-Hour Composite/Grab *[24/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 8 through 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

FOOTNOTES:

1. **Sampling** – 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.

   All detectable analytical test results shall be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department. See Attachment D of this permit for a list of the Department's current RLs. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the actual detection limit achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL is not acceptable and will be rejected by the Department. For mass, if the analytical result is reported as <Y or if a detectable result is less than a RL, report a <X lbs/day, where X is the parameter specific limitation established in the permit. Compliance with this permit will be evaluated based on whether or not a compound is detected at or above the Department's RL.

2. **BOD_5 and TSS Tiered Limits** – Beginning the effective date of this permit and lasting through permit expiration, unless otherwise specified in writing by the Department that Tier II or Tier III limitations become effective, the BOD_5 and TSS effluent limitations established for Tier I are in effect. Tier II or Tier III limitations shall only become effective upon written Department approval following notification to the Department by the permittee of changes in industrial facility loading. The effluent limitations for Tier III represent the maximum BOD_5 and TSS loadings authorized under this permit. The Department may administratively modify this permit to revise the BOD_5 and TSS effluent limitations based on changes in the food production industries to limits that are lower (more stringent) than those established for Tier III. The permittee must request a formal modification of this permit to revise the BOD_5 and TSS effluent limitations to levels that are higher (less stringent) than those established for Tier III.

3. **Bacteria 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 bacteria limits to protect the health, safety and welfare of the public.

4. **Bacteria Reporting** – The monthly average *E. coli* bacteria limitation is a geometric mean limitation and sample results shall be reported as such.

SPECIAL CONDITIONS

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

FOOTNOTES:

5. **TRC Monitoring** – Monitoring for TRC is only required when elemental chlorine or chlorine-based compounds are in use for effluent disinfection. TRC shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The USEPA approved methods are found in Standard Methods for the Examination of Water and Waste Water, (Most current edition), Method 4500-CL-E and Method 4500-CL-G or USEPA Manual of Methods of Analysis of Water and Wastes.

6. **Orthophosphate** – Orthophosphate monitoring shall be performed in accordance with Attachment A of this permit, *Protocol For Orthophosphate Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits – Finalized May 2006,* unless otherwise specified by the Department.

7. **Total Phosphorus** – Total phosphorus monitoring shall be performed in accordance with Attachment B of this permit entitled, *Protocol For Total P Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits – Finalized May 2006*, and dated unless otherwise specified by the Department

8. **Whole effluent toxicity (WET) testing** – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical (modified) acute and chronic thresholds of 2.3% and 0.49% respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points. The critical acute and chronic thresholds were derived as the mathematical inverse of the applicable acute (modified) and chronic dilution factors of 43.8:1 and 205.8:1, respectively.

   Surveillance level WET testing is waived pursuant to Department rule Chapter 530 Section 2.D.

   Screening level testing - Beginning twelve months prior to the expiration date of the permit and every five years thereafter, the permittee shall initiate screening level WET testing at a minimum frequency of once per year. Acute and chronic testing shall be conducted on the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 2.3% and 0.49%, respectively.

SPECIAL CONDITIONS

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

FOOTNOTES:

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following USEPA methods manuals.

a. U.S. Environmental Protection Agency. 2002. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th ed. EPA 821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the acute method manual).

b. U.S. Environmental Protection Agency. 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th ed. EPA 821-R-02-013. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the freshwater chronic method manual).

Results of WET tests shall be reported on the "Whole Effluent Toxicity Report Fresh Waters" form included as Attachment C of this permit each time a WET test is performed. The permittee is required to analyze the effluent for all the analytical chemistry parameters specified on the "WET and Chemical Specific Data Report Form" form included as Attachment D of this permit each time a WET test is performed.

For the purposes of WET, analytical chemistry, and priority pollutant testing and DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

9. **Analytical Chemistry** – Pursuant to Department rule 06-096 CMR Chapter 530 Section 2.C.4, analytical chemistry refers to a suite of chemical tests that include ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total hardness, total lead, total nickel, total silver, total zinc and total residual chlorine.

   Surveillance level analytical chemistry testing is waived pursuant to Department rule Chapter 530 Section 2.D.

   Screening level testing - Beginning twelve months prior to the expiration date of this permit and every five years thereafter, the permittee shall conduct screening level analytical chemistry testing at a minimum frequency of four times per year (4/Year) in successive calendar quarters.

SPECIAL CONDITIONS

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

FOOTNOTES:

10. **Priority Pollutant Testing** – Priority pollutant testing refers to analysis for levels of priority pollutants listed in Department rule Chapter 525 Section 4.VI.

    Surveillance level priority pollutant testing is not required pursuant to Department rule Chapter 530 Section 2.D.

    Screening level testing - Beginning twelve months prior to the expiration date of this permit and every five years thereafter, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year).

    Priority pollutant and analytical chemistry testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests when applicable. Priority pollutant and analytical chemistry 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.

    Analytical chemistry and priority pollutant test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the laboratory reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

    All mercury sampling (1/Quarter) required by this permit or required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA'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 EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

SPECIAL CONDITIONS

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 discharge 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.

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 *E. coli* 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 IV** certificate (or Registered Maine Professional Engineer) 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. AUTHORIZED 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.

F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

SPECIAL CONDITIONS

G. 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 Department assigned inspector (unless otherwise specified by the Department) at the following address:

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

H. NOTIFICATION REQUIREMENTS

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

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants to the system at the time of permit issuance.

3. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and

   b. Any anticipated impact of the change in the quantity or quality of the waste water to be discharged from the treatment system.

SPECIAL CONDITIONS

I. CHAPTER 530(2)(D)(4) STATEMENT FOR REDUCED/WAIVED TOXICS TESTING

On or before December 31st of each year of the effective term of this permit ***[PCS Code 95799]***, the permittee shall provide the Department with statements describing the following:

(a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual testing be re-instituted if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

J. OPERATIONS AND MAINTENANCE (O&M) PLAN

On or before December 31, 2008, the permittee shall submit to the Department a current written comprehensive Operation & Maintenance (O&M) Plan *[PCS Code 09699]*. 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.

SPECIAL CONDITIONS

K. WET WEATHER 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 December 31, 2007, the permittee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan that 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 at least annually and record any necessary changes to keep the plan up to date.

L. REOPENING OF PERMIT FOR MODIFICATION

Upon evaluation of the tests results in the 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 monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

M. SEVERABILITY

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

ATTACHMENT A

Protocol for Orthophosphate
Sample Collection and Analysis
for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 365.2, SM 4500-P.E

Sample Collection: The Maine DEP is requesting that orthophosphate analysis be conducted on composite effluent samples unless a facility's Permit specifically indicates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. The sampler hoses should be cleaned, as needed.

Sample Preservation: During compositing the sample must be at 0-4 degrees C. The sample must be filtered immediately (within 15 minutes) after collection using a pre-washed 0.45-um membrane filter. Be sure to follow one of the pre-washing procedures described in the approved methods. Also, be aware that you will likely want to use a designated suction hose and collection container for the orthophosphate filtering process. If the sample is being sent to a commercial laboratory or analysis cannot be performed within 2 hours after collection then the sample must be kept at 0-4 degrees C. There is a 48-hour holding time for this sample although analysis should be done sooner, if possible.

QA/QC: Run a distilled water blank and at least 2 standards with each series of samples. If standards do not agree within 2% of the true value then prepare a new calibration curve.

Every month run a blank on the composite jug and sample line. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

Finalized May 2006

ATTACHMENT B

Protocol for Total Phosphorus
Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 365.2, SM 4500-P B.5 E

Sample Collection: The Maine DEP is requesting that total phosphorus analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. The sampler hoses should be cleaned, as needed.

Sample Preservation: During compositing the sample must be at 0-4 degrees C. If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved by the addition of 2 mls of concentrated H_2SO_4 per liter and refrigerated at 0-4 degrees C. The holding time for a preserved sample is 28 days.

Note: Ideally, Total P samples are preserved as described above. However, if a facility is using a commercial laboratory then that laboratory may choose to add acid to the sample once it arrives at the laboratory. The Maine DEP will accept results that use either of these preservation methods.

QA/QC: Run a distilled water blank and at least 2 standards with each series of samples. If standards do not agree within 2% of the true value then prepare a new calibration curve.

Every month run a blank on the composite jug and sample line. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

Finalized May 2006

ATTACHMENT C

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
FRESH WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

By signing this form, I attest that to the best of my knowledge that the information provided is true, accurate, and complete.

Facility Telephone # _____ Date Collected _____ Date Tested _____

mm/dd/yy mm/dd/yy

Chlorinated? _____ Dechlorinated? _____

Results

	% effluent	
	water flea	trout
A-NOEL		
C-NOEL		

Effluent Limitations

A-NOEL	
C-NOEL	

Data summary

	water flea			trout		
	% survival		no. young	% survival		final weight (mg)
QC standard	**A>90**	**C>80**	**>15/female**	**A>90**	**C>80**	**> 2% increase**
lab control						
receiving water control						
conc. 1 (%)						
conc. 2 (%)						
conc. 3 (%)						
conc. 4 (%)						
conc. 5 (%)						
conc. 6 (%)						
stat test used						

place * next to values statistically different from controls

for trout show final wt and % incr for both controls

Reference toxicant

	water flea		trout	
	A-NOEL	C-NOEL	A-NOEL	C-NOEL
toxicant / date				
limits (mg/L)				
results (mg/L)				

Comments _____

Laboratory conducting test

Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

Report WET chemistry on DEP Form "ToxSheet (Fresh Water Version), March 2007."

ATTACHMENT D

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

Facility Name _____ **MEPDES #** _____ **Pipe #** _____ Facility Representative Signature _____
To the best of my knowledge this information is true, accurate and complete.

Licensed Flow (MGD) | **Flow for Day (MGD)(1)** | **Flow Avg. for Month (MGD)(2)**
Acute dilution factor
Chronic dilution factor | **Date Sample Collected** | Date Sample Analyzed
Human health dilution factor
Criteria type: M(arine) or F(resh)

Laboratory _____ Telephone _____
Address _____
Lab Contact _____ Lab ID # _____

ERROR WARNING ! Essential facility information is missing. Please check required entries in bold above.

FRESH WATER VERSION

Please see the footnotes on the last page.

			Effluent Limits, %			Receiving Water or Ambient	**Effluent Concentration (ug/L or as noted)** WET Result, % Do not enter % sign	Reporting Limit Check	**Possible Exceedence (7)**		
	WHOLE EFFLUENT TOXICITY		Acute	Chronic					Acute	Chronic	
	Trout - Acute										
	Trout - Chronic										
	Water Flea - Acute										
	Water Flea - Chronic										
	WET CHEMISTRY										
	pH (S.U.) (9)					(8)					
	Total Organic Carbon (mg/L)					(8)					
	Total Solids (mg/L)										
	Total Suspended Solids (mg/L)										
	Alkalinity (mg/L)					(8)					
	Specific Conductance (umhos)										
	Total Hardness (mg/L)					(8)					
	Total Magnesium (mg/L)					(8)					
	Total Calcium (mg/L)					(8)					
	ANALYTICAL CHEMISTRY (3)										
	Also do these tests on the effluent with WET. Testing on the receiving water is optional.	Reporting Limit	Effluent Limits, ug/L Acute(6)	Chronic(6)	Health(6)			Reporting Limit Check	**Possible Exceedence (7)** Acute	Chronic	Health
	TOTAL RESIDUAL CHLORINE (mg/L) (9)	0.05				NA					
	AMMONIA	NA				(8)					
M	ALUMINUM	NA				(8)					
M	ARSENIC	5				(8)					
M	CADMIUM	1				(8)					
M	CHROMIUM	10				(8)					
M	COPPER	3				(8)					
M	CYANIDE	5				(8)					
M	LEAD	3				(8)					
M	NICKEL	5				(8)					
M	SILVER	1				(8)					
M	ZINC	5				(8)					

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
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	PRIORITY POLLUTANTS [4]		Effluent Limits					Reporting Limit Check	Possible Exceedence [7]		
		Reporting Limit	Acute[6]	Chronic[6]	Health[6]				Acute	Chronic	Health
M	ANTIMONY	5									
M	BERYLLIUM	2									
M	MERCURY (5)	0.2									
M	SELENIUM	5									
M	THALLIUM	4									
A	2,4,6-TRICHLOROPHENOL	3									
A	2,4-DICHLOROPHENOL	5									
A	2,4-DIMETHYLPHENOL	5									
A	2,4-DINITROPHENOL	45									
A	2-CHLOROPHENOL	5									
A	2-NITROPHENOL	5									
A	4,6 DINITRO-O-CRESOL (2-Methyl-4,6-dinitrophenol)	25									
A	4-NITROPHENOL	20									
A	P-CHLORO-M-CRESOL (3-methyl-4-chlorophenol)+B80	5									
A	PENTACHLOROPHENOL	20									
A	PHENOL	5									
BN	1,2,4-TRICHLOROBENZENE	5									
BN	1,2-(O)DICHLOROBENZENE	5									
BN	1,2-DIPHENYLHYDRAZINE	10									
BN	1,3-(M)DICHLOROBENZENE	5									
BN	1,4-(P)DICHLOROBENZENE	5									
BN	2,4-DINITROTOLUENE	6									
BN	2,6-DINITROTOLUENE	5									
BN	2-CHLORONAPHTHALENE	5									
BN	3,3'-DICHLOROBENZIDINE	16.5									
BN	3,4-BENZO(B)FLUORANTHENE	5									
BN	4-BROMOPHENYLPHENYL ETHER	2									
BN	4-CHLOROPHENYL PHENYL ETHER	5									
BN	ACENAPHTHENE	5									
BN	ACENAPHTHYLENE	5									
BN	ANTHRACENE	5									
BN	BENZIDINE	45									
BN	BENZO(A)ANTHRACENE	8									
BN	BENZO(A)PYRENE	3									
BN	BENZO(G,H,I)PERYLENE	5									
BN	BENZO(K)FLUORANTHENE	3									
BN	BIS(2-CHLOROETHOXY)METHANE	5									
BN	BIS(2-CHLOROETHYL)ETHER	6									
BN	BIS(2-CHLOROISOPROPYL)ETHER	6									
BN	BIS(2-ETHYLHEXYL)PHTHALATE	3									
BN	BUTYLBENZYL PHTHALATE	5									
BN	CHRYSENE	3									
BN	DI-N-BUTYL PHTHALATE	5									
BN	DI-N-OCTYL PHTHALATE	5									
BN	DIBENZO(A,H)ANTHRACENE	5									
BN	DIETHYL PHTHALATE	5									
BN	DIMETHYL PHTHALATE	5									

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
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BN	FLUORANTHENE	5									
BN	FLUORENE	5									
BN	HEXACHLOROBENZENE	2									
BN	HEXACHLOROBUTADIENE	1									
BN	HEXACHLOROCYCLOPENTADIENE	10									
BN	HEXACHLOROETHANE	2									
BN	INDENO(1,2,3-CD)PYRENE	5									
BN	ISOPHORONE	5									
BN	N-NITROSODI-N-PROPYLAMINE	10									
BN	N-NITROSODIMETHYLAMINE	1									
BN	N-NITROSODIPHENYLAMINE	5									
BN	NAPHTHALENE	5									
BN	NITROBENZENE	5									
BN	PHENANTHRENE	5									
BN	PYRENE	5									
P	4,4'-DDD	0.05									
P	4,4'-DDE	0.05									
P	4,4'-DDT	0.05									
P	A-BHC	0.2									
P	A-ENDOSULFAN	0.05									
P	ALDRIN	0.15									
P	B-BHC	0.05									
P	B-ENDOSULFAN	0.05									
P	CHLORDANE	0.1									
P	D-BHC	0.05									
P	DIELDRIN	0.05									
P	ENDOSULFAN SULFATE	0.1									
P	ENDRIN	0.05									
P	ENDRIN ALDEHYDE	0.05									
P	G-BHC	0.15									
P	HEPTACHLOR	0.15									
P	HEPTACHLOR EPOXIDE	0.1									
P	PCB-1016	0.3									
P	PCB-1221	0.3									
P	PCB-1232	0.3									
P	PCB-1242	0.3									
P	PCB-1248	0.3									
P	PCB-1254	0.3									
P	PCB-1260	0.2									
P	TOXAPHENE	1									
V	1,1,1-TRICHLOROETHANE	5									
V	1,1,2,2-TETRACHLOROETHANE	7									
V	1,1,2-TRICHLOROETHANE	5									
V	1,1-DICHLOROETHANE	5									
V	1,1-DICHLOROETHYLENE (1,1-dichloroethene)	3									
V	1,2-DICHLOROETHANE	3									
V	1,2-DICHLOROPROPANE	6									
V	1,2-TRANS-DICHLOROETHYLENE (1,2-trans-dichloroethene)	5									
V	1,3-DICHLOROPROPYLENE (1,3-dichloropropene)	5									
V	2-CHLOROETHYLVINYL ETHER	20									

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

V	ACROLEIN	NA									
V	ACRYLONITRILE	NA									
V	BENZENE	5									
V	BROMOFORM	5									
V	CARBON TETRACHLORIDE	5									
V	CHLOROBENZENE	6									
V	CHLORODIBROMOMETHANE	3									
V	CHLOROETHANE	5									
V	CHLOROFORM	5									
V	DICHLOROBROMOMETHANE	3									
V	ETHYLBENZENE	10									
V	METHYL BROMIDE (Bromomethane)	5									
V	METHYL CHLORIDE (Chloromethane)	5									
V	METHYLENE CHLORIDE	5									
V	TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene)	5									
V	TOLUENE	5									
V	TRICHLOROETHYLENE (Trichloroethene)	3									
V	VINYL CHLORIDE	5									

Notes:

(1) Flow average for day pertains to WET/PP composite sample day.

(2) Flow average for month is for month in which WET/PP sample was taken.

(3) Analytical chemistry parameters must be done as part of the WET test chemistry.

(4) Priority Pollutants should be reported in micrograms per liter (ug/L).

(5) Mercury is often reported in nanograms per liter (ng/L) by the contract laboratory, so be sure to convert to micrograms per liter on this spreadsheet.

(6) Effluent Limits are calculated based on dilution factor, background allocation (10%) and water quality reserves (15% - to allow for new or changed discharges or non-point sources).

(7) Possible Exceedence determinations are done for a single sample only on a mass basis using the actual pounds discharged. This analysis does not consider watershed wide allocations for fresh water discharges.

(8) These tests are optional for the receiving water. However, where possible samples of the receiving water should be preserved and saved for the duration of the WET test. In the event of questions about the receiving water's possible effect on the WET results, chemistry tests should then be conducted.

(9) pH and Total Residual Chlorine must be conducted at the time of sample collection. Tests for Total Residual Chlorine need be conducted only when an effluent has been chlorinated or residual chlorine is believed to be present for any other reason.

Comments:

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

DATE: **MAY 7, 2007**

PERMIT NUMBER: **#ME0100226**
WASTE DISCHARGE LICENSE: **#W000694-5M -D-R**

NAME AND ADDRESS OF APPLICANT:

FORT FAIRFIELD UTILITIES DISTRICT
P.O. BOX 267 100 HIGH STREET
FORT FAIRFIELD, MAINE 04742

COUNTY: **AROOSTOOK**

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

FORT FAIRFIELD UTILITIES DISTRICT
100 HIGH STREET
FORT FAIRFIELD, MAINE 04742

RECEIVING WATER/CLASSIFICATION: **AROOSTOOK RIVER/CLASS C**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **MR. RODNEY DESCHAINE**
(207) 472-1391

1. APPLICATION SUMMARY

Application: The Fort Fairfield Utilities District (FFUD) has applied to the Maine Department of Environmental Protection (Department) for a renewal of Waste Discharge License (WDL) #W000694-5M-C-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100226, which was issued on April 26, 2001, and expired on April 26, 2006. The 4/26/01 MEPDES permit authorized the monthly average discharge of up to 0.60 million gallons per day (MGD) of combined secondary treated sanitary wastewater and industrial wastewater from a publicly owned treatment works (POTW) to the Aroostook River, Class C, in Fort Fairfield, Maine.

On April 1, 2002, the FFUD began accepting industrial wastewater from Aroostook Starch, LLC for treatment. During 2002, the FFUD began accepting landfill leachate for treatment.

On April 10, 2006, the Department modified the 4/26/01 permit to incorporate testing requirements of Department rule Chapter 530 (the toxics rule).

2. PERMIT SUMMARY

a. Terms and Conditions: **This permitting action is similar to the 4/26/01 permitting action and 4/10/06 modification in that it is:**

1. Carrying forward the monthly average discharge flow limit of 0.6 MGD;

2. Carrying forward the daily maximum technology-based concentration limit for settleable solids;

3. Carrying forward the seasonal monthly average and daily maximum concentration limits for *Escherichia coli* bacteria;

4. Carrying forward the water quality-based daily maximum concentration limit for total residual chlorine (TRC);

5. Carrying forward the pH range limit of 6.0 to 9.0 standard units (SU);

6. Carrying forward the daily maximum concentration reporting requirements for total phosphorus and orthophosphate;

7. Carrying forward the whole effluent toxicity (WET), chemical specific and analytical chemistry testing requirements; and

8. Carrying forward the minimum monitoring frequency requirements for discharge flow, biochemical oxygen demand (BOD_5), total suspended solids (TSS), settleable solids, TRC and pH.

This permitting action is different from the 4/26/01 permitting action and 4/10/06 modification in that it is:

1. Establishing a daily maximum discharge flow reporting requirement;

2. Revising the monthly average and daily maximum mass limitations for BOD_5 and TSS;

3. Establishing three tiers of technology-based concentration and mass limitations for BOD_5, and TSS;

4. Establishing monthly average concentration and mass reporting requirements and a daily maximum mass reporting requirement for total phosphorus and orthophosphate;

5. Establishing Special Condition I, *Chapter 530(2)(D)(4) Statement for Reduced/Waived Toxics Testing*, for waived surveillance level WET, chemical specific and analytical chemistry testing pursuant to Department rue Chapter 530;

6. Eliminating the daily maximum concentration limit for oil and grease;

2. PERMIT SUMMARY (cont'd)

7. Eliminating the annual biosolids disposal reporting requirement (previous Special Condition L); and

8. Revising the minimum monitoring frequency requirements for *E. coli* bacteria, total phosphorus, and orthophosphate.

b. History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the FFUD.

May 23, 2000 – Pursuant to Maine law, 38 M.R.S.A. §420 and §413 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL #W000694-47-B-R by establishing interim monthly average and daily maximum effluent concentration limits of 49.3 parts per trillion (ppt) and 74.0 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury. It is noted the limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as limitations and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. However, the interim limitations remain in effect and enforceable and any modifications to the limits and or monitoring requirements will be formalized outside of this permitting document.

June 8, 2000 – The U.S. Environmental Protection Agency (USEPA) issued a renewal of National Pollutant Discharge Elimination System (NPDES) permit #ME0100226 to the FFUD. The 6/8/00 permit superseded the NPDES permit issued to the FFUD by the USEPA on September 30, 1991 (earliest NPDES permit on file with the Department).

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 this point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program.

April 26, 2001 – The Department issued WDL #W000694-5M-C-R / MEPDES permit #ME0100226 to the FFUD for a five-year term. The 4/26/01 permit superseded WDL #W000694-47-B-R issued on September 24, 1991, and WDL #W000694-45-A-R issued on March 11, 1986 (earliest Order on file with the Department).

2. PERMIT SUMMARY (cont'd)

September 8, 2005 – The Board of Environmental Protection ratified an Administrative Consent Agreement and Enforcement Order for the FFUD. The Consent Agreement and Enforcement Order resolved violations of effluent limitations established for discharge flow, BOD, TSS, and pH, and violations of Special Conditions established in the 4/26/01 MEPDES permit, as well as violations of Maine law, 38 M.R.S.A §414(5). The Enforcement Order required several corrective actions to be completed to ensure future compliance, payment of a monetary penalty, and participation in a railroad tie disposal program. The Enforcement Order also required the FFUD to submit to the Department documentation that all of the pretreatment program requirements specified by the Department's pretreatment coordinator have been met; required several treatment plant evaluations to be completed by a Maine registered professional engineer; and required the facility to hire a treatment plant operator of at least a Grade IVB certification level.

February 7, 2006 – The FFUD submitted a timely and complete General Application to the Department for renewal of the 4/26/01 MEPDES permit. The application was accepted for processing on February 7, 2006 and was assigned WDL # W000694-5M-D-R / MEPDES #ME0100226.

April 10, 2006 – The Department modified the 4/26/01 permit to incorporate testing requirements of Department rule Chapter 530 (the toxics rule).

c. Source Description: The Fort Fairfield Utilities District, a quasi-municipal organization, receives residential and industrial sanitary wastewater from customers within the town of Fort Fairfield. The FFUD reports wastewater flows from food processing facilities are as described in Table 1 below.

Table 1. Food processing facility production figures and discharges to the FFUD treatment facility.

Facility Information		Pounds per day processed		Processing period each year		Daily effluent flows	
Facility	Product	Average lbs./day	Maximum lbs./day	#weeks/year	Months processing	Average	Maximum
Atlantic Custom Processors	Potatoes	80,000	220,000	Up to 46	Jan-Dec	0.030 MGD	0.111 MGD
	Blueberries, broccoli, cauliflower, cranberries	180,000	180,000	18	Aug-Nov	0.100 MGD	0.150 MGD
Aroostook Starch	Food and paper grade starch	165,347	253,532	52	Jan-Dec	0.052 MGD	0.247 MGD
Canusa Foods	Potato flakes and flour	50,000	60,000	43	Jan-Jun; Sep-Dec	0.023 MGD	0.105 MGD

The FFUD stated that production figures for Aroostook Starch and Canusa Foods are actual figures for the most recent three year period through 2005. Both facilities are processing as of the date of this permitting action.

The FFUD stated that the potato processing figures for Atlantic Custom Processors were current in 2001, but that the facility has not processed any potatoes since 2001. All of the processing equipment remains functional at the facility. The FFUD further stated that

2. PERMIT SUMMARY (cont'd)

blueberry, broccoli, and cauliflower production figures for Atlantic Custom Processors are based on past loadings and that cranberries will be processed for the first time in calendar year 2006.

The FFUD has authorized the Tri-Community Landfill to convey a daily maximum flow of up to 70,000 gallons per day of landfill leachate to the treatment facility. Septic tank waste (septage) is not accepted at the facility, but instead is delivered to Tri-Community Landfill.

There are no combined sewer overflow points associated with the FFUD collection system. A map created by the Department showing the location of the treatment facility and receiving water is included as Fact Sheet Attachment A.

d. Wastewater Treatment: Industrial and sanitary wastewater flows generated in Fort Fairfield enter the treatment facility separately, but are combined for treatment. The industrial influent, which consists of approximately 0.048 MGD, enters the plant through a 16-inch diameter pipe to a pump station and is then pumped to a 2.7 million gallon (MG) anaerobic digester. The FFUD reports that under average industrial flow conditions of approximately 0.225 MGD, the digester has a hydraulic retention time of 12 days. The industrial flow is then conveyed to a reaeration tank with a volume of 0.144 MG and a hydraulic retention time of 15.4 hours under average flow conditions. The industrial flow is then conveyed to rotating biological contactor (RBC) units for further treatment.

The municipal influent, which consists of approximately 0.402 MGD, enters the plant through an 18-inch diameter pipe and flows over a bar rack and through a Pista grit removal system before entering the RBC units.

The combined average wastewater flow (0.454 MGD) is treated using five rotating biological contactor units followed by secondary clarification in two clarifiers, which each has an approximate volume of 0.037 MG. Waste water then flows to two chlorine contact chambers with a combined capacity of 0.024 MG.

Final effluent is conveyed for discharge to the Aroostook River via an 18-inch diameter outfall designated Outfall #001A in this permitting action. The outfall pipe is shared with Boralex Fort Fairfield, Inc. (formerly Aroostook Valley Electric Company), a steam electric power generating station, through a January 1987 joint use agreement. The pipe is submerged to a depth of approximately four feet at mean low water conditions. The pipe is not fitted with diffusers or other structures intended to enhance mixing of the effluent with the receiving waters.

The sludge from both clarifiers is pumped into the anaerobic digester and is wasted from the digester every summer at a Department approved land spreading site. If needed, the FFUD also has two 1.0 MG lagoons that may be used for sludge storage during the winter months. A wastewater treatment process 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 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, 38 M.R.S.A., §420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, 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

Maine law, 38 M.R.S.A., Section 467(C)(1)(f) classifies the Aroostook River at the point of discharge as Class C waters. Maine law, 38 M.R.S.A., Section 465(4) describes the standards for Class C waters.

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2004 Integrated Water Quality Monitoring and Assessment Report, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists a 17.6-mile reach of the Aroostook River above the Canadian border (Hydrologic Unit Code #ME0101000413 / Waterbody ID #148R) as, *"Category 2: Rivers and Streams Attaining Some Designated Uses – Insufficient Information for Other Uses."*

The Report lists all of Maine's fresh waters as, *"Category 4-B-3: Waters Impaired by Atmospheric Deposition of Mercury. Regional or National TMDL may be Required."* Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, "the impairment is presumed to be from atmospheric contamination and deposition. The advisory is based on probability data that a stream, river, or lake may contain some fish that exceed the advisory action level. Any freshwater may contain both contaminated and uncontaminated fish depending on size, age and species occurrence in that water." Pursuant to Maine law, 38 M.R.S.A. §420(1-B)(B), "a facility is not in violation of the ambient criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413 subsection 11." The Department has established interim monthly average and daily maximum mercury concentration limits for this facility.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Current Water Quality Assessment/Modeling

The Aroostook River Basin is the largest sub basin of the St. John River lying almost entirely within the State of Maine. The river segment of interest on the Aroostook begins in Ashland and flows to Washburn, Presque Isle, Caribou, Fort Fairfield and eventually the international border. In this segment of interest, there are seven point source discharges licensed to discharge organic waste loads to the Aroostook River: Ashland Water and Sewer District (AWSD), Town of Washburn, Presque Isle Sewer District (PISD), Caribou Utilities District (CUD), Loring Development Authority (LDA), Fort Fairfield Utilities District (FFUD), and McCain Foods, USA, Inc. (McCain). Additionally, two dams significantly impound water in this river segment. The Caribou dam is located approximately 15 river miles upstream of the international border and impounds water 4.5 river miles upstream of the international border. The Tinker dam is located in Canada, but impounds water 5 river miles upstream of the international border.

A study of the Aroostook River from Ashland to the United States-Canadian border (58 miles) began in the summer of 2001 involving the Department and a number of stakeholders, including McCain. Two data sets were collected in August of 2001 to calibrate and verify a water quality model, and in September 2004, the Department summarized the findings in a report entitled, *Aroostook River Modeling Report, Final Sept 2004* ("Modeling Report").

It is appropriate to note at this point that the Department has not established numeric nutrient criteria at this time, specifically for phosphorous. The Department is in the process of developing nutrient criteria (as required by the USEPA), methodologies for quantitatively evaluating benthic-attached algae, and developing water classification specific (Class A, Class B, and Class C) chlorophyll-a standards for Maine waters. These criteria and standards are anticipated to be finalized at the time the FFUD applies for renewal of this permit in 2011-12. At the time that the Department's Division of Environmental Assessment (DEA) evaluated the 2001 Aroostook River data, calibrated and verified the Aroostook River water quality model, and published the 2004 Modeling Report, certain assumptions were incorporated into the model to predict water quality conditions, such as utilizing a range of 8 to 12 ug/L for chlorophyll-a as the likely threshold level for algae blooms. Additionally, "there is currently no precedent on threshold levels of benthic algae where designated uses become inhibited, but it is likely that this could also be an issue on the Aroostook River after the nutrient criteria are developed...." (Modeling Report, p.51) In the Executive Summary of the Modeling Report (see #11 and #12), the Department concluded that "An additional data set should be taken at reduced point source phosphorous inputs" and "Total phosphorous license allocations for point sources should be re-evaluated by the model after collection of the additional data set recommended and nutrient criteria development are final." The Department stated in its response to comment #11 (see page 4 of the Modeling Report, *Response to Comments*), that "it [i]s important to make all stakeholders aware of the nutrient issue on the Aroostook River and give some idea for ballpark estimates of phosphorous allocations, given the current science and knowledge of this issue."

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

With these recommendations in mind, the Department is providing in this fact sheet a summary of significant findings and predictions of the 2001 data and 2004 Modeling Report.

The Department concluded in the Modeling Report that both 2001 data sets experienced chlorophyll-a levels exceeding the upper range of the 8 to 12 µg/L threshold from above the Caribou dam to the international border, and that algae blooms are projected for 13 to 23 miles of the river from Maysville to the international border, with chlorophyll-a levels as high as 17 µg/L. The model predicts that both minimum dissolved oxygen criteria and monthly average dissolved oxygen criteria (6.5 parts per million) should be met everywhere on the Aroostook River. Additionally, the Modeling Report states that "Although not quantitatively sampled, large levels of benthic algae were observed in the Aroostook River during the 2001 surveys. The benthic algae were evident from the confluence of the Presque Isle Stream to the head of the Caribou dam impoundment, but most abundant from below the Caribou dam to the head of the Tinker Dam impoundment in Fort Fairfield." The Modeling Report states that dissolved oxygen data collected in 2001 are characterized by large diurnal fluctuations due to the significant growths of both bottom-attached (benthic) and floating algae (phytoplankton)." There is a trend of less fluctuation (generally around 1-2 ppm) above the major point source discharges as compared to average diurnal fluctuations below the major point source discharges (ranging from 5 to 9 ppm in shallower flowing sections and 1 to 4 ppm in impoundments).

Phosphorous is ordinarily the limiting nutrient in fresh water systems, which must be reduced in order to alleviate eutrophication. Component analysis was undertaken by comparing input loads of point and non-point sources of ultimate BOD and total phosphorous. This analysis demonstrates that at 7Q10 river conditions, McCain and PISD are the major sources of phosphorous in the river, assuming that both are discharging at licensed flows with contributions of 43% and 17% of the total river phosphorous load, respectively. See Figure 16 of the Modeling Report. Assuming that all dischargers are discharging their licensed BOD_5 loads at 7Q10 flow, McCain, LDA, CUD, and PISD are all significant inputs with contributions of 29%, 15%, 15%, and 14%, respectively, of the total ultimate BOD load. For both phosphorous and BOD, base flow non-point source and background sources are not significant, accounting collectively for 4% and 13% of the total river load for phosphorous and BOD, respectively. See Figure 17 of the Modeling Report.

Different levels of point source reductions were investigated to estimate the amount needed to alleviate eutrophication on the Aroostook River, given the model assumptions described above. See Table 10 of the Modeling Report. Large reductions of point source phosphorous are recommended to reduce algae to a non-eutrophic state. Model prediction runs undertaken with reduced phosphorous inputs from McCain and PISD, which collectively have been identified as the two largest sources of phosphorous to the river, provide guidance as to the necessary reductions. The model runs suggest that a total phosphorous effluent mass limit for the McCain and PISD facilities based upon permitted flow and a total phosphorous concentration of 0.5 ppm would result in a maximum chlorophyll-a concentration of 9 ppb, which approaches the lower end of the 8-12 ppb range at which algae blooms are expected in the river.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The Modeling Report states that phosphorous limits "should proceed only after the collection of an additional data set under reduced phosphorous inputs and the establishment of nutrient criteria." And, "Given the high levels of benthic and floating algae, and the large swings in DO and pH on the Aroostook [River], it is obvious that nutrients are an issue here and some reductions of phosphorous are likely in the near future. It is hoped that McCain's and other stakeholders that this issue seriously and at least consider what the targeted P-reductions investigated in the report will mean for them. It is also hoped that some of the stakeholders will agree to voluntary P-reduction in a future summer under which more data can be collected." (See response to comment #11 of the Modeling Report, *Response to Comments*.) In this permitting action, the Department is emphasizing the importance of investigating phosphorous reduction at the major point source dischargers and additional ambient data collection to support future arguments on the establishment of limitations and monitoring requirements following completion of the nutrient criteria. Additionally, concerns regarding the analytical model utilized by the Department for the Modeling Report (QUAL2MDEP version of QUAL2EU) should be discussed with the Department's Division of Environmental Assessment during the early part of the effective term of this permit to ensure any changes in model calibration/verification, model runs or data collection can be completed prior to application for renewal of this permit.

Due to uncertainties in final nutrient criteria and how these final criteria will affect the 2004 Modeling Report results, this permitting action is carrying forward the seasonal (June 1 – September 30) daily maximum concentration reporting requirement, establishing a daily maximum mass reporting requirement for total phosphorous, establishing monthly average concentration and mass reporting requirements for orthophosphate and total phosphorous with a minimum monitoring frequency requirement of twice per month to assist in evaluating the impact of the discharge on receiving water quality.

The Department has no information at this time that the discharge from the FFUD will cause or contribute to the failure of the receiving water to meet the designated uses of its assigned classification.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Applicability of National Effluent Guidelines: Title 40, Part 407, *Canned and Preserved Fruits and Vegetables Processing Point Source Category*, Subpart D, *Frozen Potato Products Subcategory*, of the Code of Federal Regulations applies to the discharge from the FFUD. Effluent limitation guidelines for BOD_5, TSS, and pH, which represent the degree of effluent reduction attainable by the application of the Best Practicable Control Technology Currently Available (BPT), are specified at 40 CFR Part 407.42.

More than 90% of the biochemical oxygen demand (BOD_5,) and total suspended solids (TSS) loading and approximately 11% of all waste water flows conveyed to the FFUD originate from the processing of raw vegetables (potatoes, broccoli, and cauliflower) and fruit (blueberries and cranberries) at Atlantic Custom Processors located in Fort Fairfield. When processing at the rates described in Section 2(c) Table 1 of this fact sheet, Canusa Foods contributes approximately 4% of the influent flow and Aroostook Starch contributes

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

approximately 9% of the influent flow. The food process waste waters are subject to Title 40 of the Federal Code of Regulations (CFR), Part 407, *Canned and Preserved Fruits and Vegetables Processing Point Source Category*, Subpart D, *Frozen Potato Products Subcategory*. The applicable pretreatment standard for existing sources promulgated at 40 CFR Part 407.44 states, *"...the following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a point source subject to the provisions of this subpart."* Part 407.44 continues with a table specifying that there are no established pretreatment limitations for the listed parameters, pH, BOD_5, and TSS. Therefore, and based on best professional judgment, the Department is applying the BPT-based effluent limitation guidelines for BOD_5, TSS, and pH promulgated at 40 CFR Part 407.42 to establish appropriate effluent limits for these parameters.

Title 40 Part 445, *Landfill Point Source Category*, Section 445.1 states that *"this part applies to discharges of wastewater from landfill units"* 40 CFR Part 445.3 states, *"Any source subject to this part that introduces wastewater pollutants into a publicly owned treatment works (POTW) must comply with 40 CFR part 403"* but does not establish numeric pretreatment standards for landfill leachate conveyed to publicly owned treatment works. 40 CFR Part 445.21 establishes BPT-based effluent guidelines for the non-hazardous waste landfill subcategory. In consideration that there are no numeric pretreatment standards for BOD_5, and TSS for this category and based on best professional judgment, the Department is utilizing the BPT-based effluent guidelines for BOD_5, and TSS to calculate the allowable loadings resulting from the landfill leachate waste stream.

b. Flow: The previous permitting action established, and this permitting action is carrying forward, a monthly average discharge flow limitation of 0.6 MGD based on the monthly average dry weather design capacity of the facility. This permitting action is establishing a daily maximum discharge flow reporting requirement to assist in compliance evaluations. A review of the monthly average flow data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 indicates the monthly average flow has ranged from 0.229 MGD to 0.960 MGD with an arithmetic mean of 0.412 MGD.

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

c. Dilution Factors: Dilution factors associated with the permitted discharge flow of 0.6 MGD from the FFUD were derived in accordance with Department rule, 06-096 CMR, Chapter 530 Section 4.A *Surface Water Toxics Control Program* and were calculated as follows:

Acute ¼ 1Q10 = 39.7 cfs $\Rightarrow \frac{(39.7 \text{ cfs})(0.6464) + 0.6 \text{ MGD}}{0.6 \text{ MGD}} = 43.8:1$

Acute: 1Q10 = 158.9 cfs $\Rightarrow \frac{(158.9 \text{ cfs})(0.6464) + 0.6 \text{ MGD}}{0.6 \text{ MGD}} = 172.2:1$

Chronic: 7Q10 = 190.1 cfs $\Rightarrow \frac{(190.1 \text{ cfs})(0.6464) + 0.6 \text{ MGD}}{0.6 \text{ MGD}} = 205.8:1$

Harmonic Mean = 571.5 cfs $\Rightarrow \frac{(571.5 \text{ cfs})(0.6464) + 0.6 \text{ MGD}}{0.6 \text{ MGD}} = 616.7:1$

Department rule Chapter 530 Section 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.*

The FFUD has not provided the Department with information as to the actual mixing characteristics of the discharge; therefore, the Department is utilizing the default stream flow of ¼ of the 1Q10 in acute evaluations.

d. Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS): The previous permitting action established monthly average and daily maximum mass limits of 556 pounds per day and 1,078 pounds per day, respectively, for BOD_5 and TSS. The previous permit specified that the limits were based on the sum of allowable loadings for the municipal flow of approximately 0.402 MGD and the production-based, Best Available Technology Economically Achievable (BAT) loading limits for the influent from Atlantic Processors. It is noted that previous permit contained a typographical error and the limits were derived based on Best Practicable Control Technology Currently Available (BPT) rather than BAT. The production-based industrial component was based on a year-round potato processing rate of 325,000 pounds per day.

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

In cases where the flow or loading of BOD_5 and TSS introduced by an industrial category exceeds 10 percent of the design flow or loading of a publicly owned treatment works (POTW), the secondary treatment requirements (30-day average of 30 mg/L and 7-day average of 45 mg/L) for these pollutants, as defined in Department rule Chapter 525(3)(III)(a), may be adjusted upward provided they meet the criteria outlined in Department rule Chapter 525(3)(IV)(b). The rule states that the monthly average and weekly average limits may be adjusted upwards provided the permitted discharge of BOD_5 and TSS, attributable to the industrial category, would not be greater than that which would be permitted under Section 306 of the Clean Water Act (CWA) if such industrial category were to discharge directly into navigable waters.

Due to the variability associated with influent BOD_5 and TSS loadings from the food processing facilities which convey wastewater to the treatment facility, this permitting action is establishing three tiers of technology-based effluent BOD_5 and TSS mass limits proportionate to the sanitary (municipal) flows and industrial loadings associated with the facility. Tier I limits go into effect upon issuance of this permit and are based on the current loadings to the facility (one food processor and landfill leachate). Tier II limits are based on the secondary treatment requirements as defined in Department rule 06-096 CMR Chapter 525(3)(III) considering the facility to have no significant industrial loadings. Tier III limits are based on the maximum production values for all food processors and the landfill leahcate. **Beginning upon issuance of this permit, the effluent limitations for Tier I are effective. The permittee must receive written Department approval prior to commencing discharge at the levels specified for Tier II or Tier III.**

The BPT-based effluent guidelines for potato processing promulgated at 40 CFR Part 407.42 are being utilized by the Department, based on best professional judgment, to calculate the allowable BOD_5 and TSS loadings from food processing operations. The guidelines are expressed in terms of pounds of pollutant per 1,000 pounds of raw material (lbs./lbs. production). The guidelines for BOD_5 and TSS are 2.80 lbs./per 1,000 lbs. raw material (daily maximum) and 1.40 lbs./1,000 lbs. (monthly average).

The BPT-based effluent guidelines for non-hazardous waste landfills promulgated at 40 CFR Part 445.20 are expressed in terms of milligrams per liter. The guidelines for BOD_5 are a maximum daily value of 140 mg/L and a monthly average of 37 mg/L. The guidelines for TSS are a maximum daily value of 88 mg/L and a monthly average of 27 mg/L

The BPT-based effluent guidelines for secondary treated sanitary wastewater are defined in Department rule 06-096 CMR Chapter 525(3)(III) and are expressed in terms of 30-day average and 7-day average concentration limitations. This permitting action is utilizing the monthly average BOD_5 and TSS limit of 30 mg/L and a daily maximum limit of 50 mg/L, which is based on a Department best professional judgment (BPJ) of best practicable treatment (BPT), for secondary treated sanitary wastewater, to calculate the municipal loading portion of the final effluent limitations. The average sanitary flow from this facility is 0.402 MGD.

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

TIER I Limits

Tier I BOD_5 and TSS limits are based on the combined long-term average production figure of 215,347 lbs/day (165,347 lbs./day from Aroostook Starch and 50,000 lbs./day from Canusa Foods) as reported on Department form DEPLW0104, *Food Processing Facilities*, submitted to the Department on April 5, 2006 (for Canusa) and on November 20, 2006 (for Aroostook Starch), as supplemental information to the FFUD's 2/7/06 application for permit renewal.

BOD_5 and TSS Allowable Loading Formula –Food Processor Portion:

(Average Production Rate)(BPT-based Effluent Guideline)

The food processing portion of the BOD_5 and TSS mass limits was derived as follows:

Monthly Average Mass Portion: (215,347 lbs./day)(1.40 lbs./1,000 lbs.) = 301 lbs./day
Daily Maximum Mass Portion: (215,347 lbs./day)(2.80 lbs./1,000 lbs.) = 603 lbs./day

BOD_5 and TSS Allowable Loading Formula –Landfill Leachate Portion:

(BPT-based Effluent Guideline)(Conversion Factor)(Average Leachate Flow)

The landfill leachate portion of the BOD_5 mass limits was derived as follows:
Monthly Average Mass Portion: (37 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 22 lbs./day
Daily Maximum Mass Portion: (140 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 82 lbs./day

The landfill leachate portion of the TSS mass limits was derived as follows:
Monthly Average Mass Portion: (27 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 16 lbs./day
Daily Maximum Mass Portion: (88 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 51 lbs./day

BOD_5 and TSS Allowable Loading Formula –Sanitary Portion:

(BPT-based Effluent Guideline)(Conversion Factor)(Average Sanitary Flow)

The sanitary portion of the BOD_5 and TSS mass limits was derived as follows:

Monthly Average Mass Portion: (30 mg/L)(8.34 lbs./gallon)(0.402 MGD) = 101 lbs./day
Daily Maximum Mass Portion: (50 mg/L)(8.34 lbs./gallon)(0.402 MGD) = 168 lbs./day

Monthly average and daily maximum end-of-pipe effluent **BOD_5 and TSS limitations** are the sum of the allowable food processing, sanitary, and landfill leachate portions as calculated above.

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

TIER I Limits (cont'd)

BOD_5 Mass Limitations
Monthly Average BOD_5 Limit: 301 lbs./day + 22 lbs./day + 101 lbs./day = **424 lbs./day**
Daily Maximum BOD_5 Limit: 603 lbs./day + 82 lbs./day + 168 lbs./day = **853 lbs./day**

TSS Mass Limitations
Monthly Average TSS Limit: 301 lbs./day + 16 lbs./day + 101 lbs./day = **418 lbs./day**
Daily Maximum TSS Limit: 603 lbs./day + 51 lbs./day + 168 lbs./day = **822 lbs./day**

Department rule Chapter 523, *Waste Discharge License Conditions*, Section 6, *Calculating NPDES permit conditions*, sub-section f(2) 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.*" To ensure best practicable treatment is being applied to the discharge from the FFUD at all times, the Department has made a best professional judgment determination that establishing monthly average and daily maximum technology-based concentrations limits for BOD_5 and TSS is appropriate. The concentration limits were derived by back-calculating values from the applicable mass limits calculated above and the monthly average flow limit established in Section 6(b) of this Fact Sheet. Department rule Chapter 530 §(3)(D)(1) states, "*for specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded.*" The monthly average flow data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 indicates the monthly average flow has an arithmetic mean of 0.412 MGD, which is less than the design capacity of 0.6 MGD. As not to penalize the permittee for operating at flows less than the permitted flow and to encourage water conservation at the food processors, the Department is establishing concentration limits based on a factor of 1.5. Therefore, the monthly average and daily maximum BOD_5 and TSS concentration limits may be calculated as follows:

BOD_5 Concentration Limitations

Monthly Average: $\frac{424 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})} = 84.7 \text{ mg/L} \times 1.5 =$ **127 mg/L**

Daily Maximum: $\frac{853 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})} = 170.5 \text{ mg/L} \times 1.5 =$ **256 mg/L**

TSS Concentration Limitations

Monthly Average: $\frac{418 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})} = 83.5 \text{ mg/L} \times 1.5 =$ **125 mg/L**

Daily Maximum: $\frac{822 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})} = 164.3 \text{ mg/L} \times 1.5 =$ **247 mg/L**

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

TIER I Limits (cont'd)

Department rule Chapter 525 (3)(III) provides secondary treatment effluent standards for BOD_5 and TSS in terms of monthly average and weekly average concentration limitations. The national effluent guideline limitations regulate the discharge of BOD_5 and TSS in terms of mass and do not include weekly average standards. The Department is making a best professional judgment determination that regulating the discharge of BOD_5 and TSS in terms of weekly average limitations for Tier I and Tier III conditions is not appropriate for this facility given the significant industrial influent loadings.

Department rule Chapter 525(3)(III)(b)(3) specifies a requirement to achieve a minimum 30-day average removal of 85 percent for BOD_5 and TSS for secondary treated wastewaters. The Department is making a best professional judgment determination that the percent removal requirement is not applicable for Tier I and Tier III conditions due to the significant industrial wastewater characteristic of the effluent. The exclusion of a numeric percent removal limitations for Tier I and Tier III scenarios shall in no way be construed to mean the facility is not required to be maintained and operated in such a manner as to maximum BOD_5 and TSS removal.

TIER II Limits

Tier II BOD_5 and TSS limits are based on the secondary treatment requirements of Department rule Chapter 525(3)(III) considering there is no significant industrial wastewater loadings to the facility. Tier II of this permitting action establishes monthly average and weekly average concentration limits of 30 mg/L and 45 mg/L, respectively, for BOD_5 and TSS. Tier II establishes a daily maximum concentration limitation of 50 mg/L based on a Department BPJ of BPT for secondary treated sanitary wastewater. With a design capacity of 0.6 MGD, monthly average, weekly average and daily maximum mass limitations may be calculated as follows:

Monthly Average Mass: (30 mg/L)(8.34 lbs./gallon)(0.6 MGD) = 150 lbs./day
Weekly Average Mass: (45 mg/L)(8.34 lbs./gallon)(0.6 MGD) = 225 lbs./day
Daily Maximum Mass: (50 mg/L)(8.34 lbs./gallon)(0.6 MGD) = 250 lbs./day

TIER III Limits

Tier III BOD_5 and TSS limits are based on the highest anticipated average production figure for all food processors, as reported on the *Food Processing Facilities* form, a maximum landfill leachate flow of 70,000 gallons per day, and an average sanitary flow of 0.402 MGD.

The food processing portion of the BOD_5 and TSS mass limits was derived as follows:

Monthly Average Mass Portion: (475,347 lbs./day)(1.40 lbs./1,000 lbs.) = 665 lbs./day
Daily Maximum Mass Portion: (475,347 lbs./day)(2.80 lbs./1,000 lbs.) = 1,331 lbs./day

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

TIER III Limits (cont'd)

The landfill leachate portion of the BOD_5 mass limits was derived as follows:

Monthly Average Mass Portion: (37 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 22 lbs./day
Daily Maximum Mass Portion: (140 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 82 lbs./day

The landfill leachate portion of the TSS mass limits was derived as follows:

Monthly Average Mass Portion: (27 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 16 lbs./day
Daily Maximum Mass Portion: (88 mg/L)(8.34 lbs./gallon)(0.070 MGD) = 51 lbs./day

The sanitary portion of the BOD_5 and TSS mass limits was derived as follows:

Monthly Average Mass Portion: (30 mg/L)(8.34 lbs./gallon)(0.402 MGD) = 101 lbs./day
Daily Maximum Mass Portion: (50 mg/L)(8.34 lbs./gallon)(0.402 MGD) = 168 lbs./day

Monthly average and daily maximum end-of-pipe effluent **BOD_5 and TSS limitations** are the sum of the allowable food processing, sanitary, and landfill leachate portions as calculated above.

BOD_5 Mass Limitations
Monthly Average BOD_5 Limit: 665 lbs./day + 22 lbs./day + 101 lbs./day = **788 lbs./day**
Daily Maximum BOD_5 Limit: 1,331 lbs./day + 82 lbs./day + 168 lbs./day = **1,581 lbs./day**

TSS Mass Limitations
Monthly Average TSS Limit: 665 lbs./day + 16 lbs./day + 101 lbs./day = **782 lbs./day**
Daily Maximum TSS Limit: 1,331 lbs./day + 51 lbs./day + 168 lbs./day = **1,550 lbs./day**

BOD_5 Concentration Limitations

Monthly Average: $\frac{788 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})}$ = **157 mg/L**

Daily Maximum: $\frac{1{,}581 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})}$ = **316 mg/L**

TSS Concentration Limitations

Monthly Average: $\frac{782 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})}$ = **156 mg/L**

Daily Maximum: $\frac{1{,}550 \text{ lbs/day}}{(8.34 \text{ lbs./gallon})(0.6 \text{ MGD})}$ = **310 mg/L**

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

TIER III Limits (cont'd)

It is noted that hydraulic loadings to the treatment facility with the food production facilities operating at their maximum anticipated levels will be approaching the treatment plant design capacity of 0.6 MGD. Therefore, the concentration limitations for the Tier III scenario are not increased by a factor of 1.5 as was done for Tier I limitations.

The BOD_5 and TSS limitations established for the Tier III scenario represent the maximum loadings authorized by this permit. In accordance with Special Condition H, *Notification Requirement*, the permittee shall notify the Department, in writing, of changes in the quality or quantity of industrial loadings to the facility.

For BOD_5, a review of the monthly average and daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 indicates the monthly average BOD_5 mass discharged has ranged from 94 lbs./day to 507 lbs./day with an arithmetic mean of 257 lbs./day. The maximum BOD_5 mass discharged has ranged from 201 lbs./day to 1,625 lbs./day with an arithmetic mean of 660 lbs./day.

For TSS, a review of the monthly average and daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 indicates the monthly average TSS mass discharged has ranged from 58 lbs./day to 422 lbs./day with an arithmetic mean of 199 lbs./day. The maximum TSS mass discharged has ranged from 119 lbs./day to 1,083 lbs./day with an arithmetic mean of 539 lbs./day.

The previous permitting action established a minimum monitoring frequency requirement of three times per week for BOD_5 and TSS, which is being carried forward in this permitting action in consideration of the recent enforcement action for violations of . BOD_5 and TSS limits.

e. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a technology-based daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for secondary treated wastewater. This permitting action is carrying forward the minimum monitoring frequency requirement of once per day (1/Day), which is based on Department guidance for POTWs permitted to discharge between 0.5 and 1.5 MGD.

A review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 indicates the daily maximum settleable solids concentration discharge has been 0.0 ml/L 92% of the time during said reporting period with no reported exceedances.

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

f. *Escherichia coli* Bacteria: The pervious permitting action established seasonal (May 15–September 30) monthly average and daily maximum concentration limits for *E. coli* bacteria of 142 colonies/100 ml (geometric mean) and 949 colonies/100 ml (instantaneous level), respectively, which were based on the State of Maine Water Classification Program criteria for Class C waters found at 38 M.R.S.A. §465(4)(B), and a minimum monitoring frequency requirements of three times per week. This permitting action is carrying forward both concentration limitations based on the Water Classification Program criteria and is revising the minimum monitoring frequency requirement to twice per week (2/Week) based on Department guidance for POTWs permitted to discharge between 0.5 and 1.5 MGD. Although *E. coli* bacteria limits are seasonal and apply between May 15 and September 30 of each year, the Department reserves the right to impose year-round bacteria limits if deemed necessary to protect the health, safety and welfare of the public.

A review of the monthly average and daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 (months of May through September only) indicates the monthly (geometric mean) *E. coli* bacteria discharged has ranged from 1 colony/100 ml to 6 colonies/100 ml with an arithmetic mean of 2.7 colonies/100 ml. The maximum *E. coli* bacteria discharged has ranged from 8 colonies/100 ml to 949 colonies/100 ml with an arithmetic mean of 96.3 colonies/100 ml. The DMR indicates the facility has been in compliance with the geometric mean limitation 100% of the time and in compliance with the daily maximum limitation 93% of the time during said reporting period.

g. Total Residual Chlorine: The previous permitting action established a daily maximum water quality-based concentration limit of 0.83 mg/L for TRC and a minimum monitoring frequency requirement of once per day. Limitations on 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 acute and chronic water quality based concentration thresholds may be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	Modified A & C Dilution Factors	Calculated Acute Threshold	Calculated Chronic Threshold
0.019 mg/L	0.011 mg/L	43.8:1 (Mod. A) 205.8:1 (C)	0.83 mg/L	2.3 mg/L

The Department has established a daily maximum BPT limitation 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 in order 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 FFUD does not dechlorinate the effluent prior to discharge in order to consistently achieve compliance with the water quality-based thresholds. The calculated acute water quality-based threshold of 0.83 mg/L is more stringent than the daily maximum technology-based standard of 1.0 mg/L and is therefore being carried forward in this permitting action.

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

This permitting action is carrying forward the minimum monitoring frequency of once per day (1/Day), which is based on Department guidance for POTWs permitted to discharge between 0.5 and 1.5 MGD.

A review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 (months of May through September only corresponding to seasonal bacteria limits) indicates the maximum TRC discharged has ranged from 0.48 mg/L to 0.85 mg/L with an arithmetic mean of 0.71mg/L. The DMR data indicate the facility has been in compliance with the daily maximum limitation 93% of the time during said reporting period.

h. pH: The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units, which is based on Department rule, 06-096 CMR Chapter 525(3)(III), and a minimum monitoring frequency requirement of once per day (1/Day), which is based on Department guidance for POTWs permitted to discharge between 1.5 and 5.0 MGD. It is noted that 40 CFR, Part 407, *Canned and Preserved Fruits and Vegetables Processing Point Source Category*, Subpart D, *Frozen Potato Products Subcategory*, applicable to the discharge from the FFUD regulates the pH range at 6.0 – 9.0 SU as well. This permitting action is carrying forward the minimum monitoring frequency of once per day (1/Day), which is based on Department guidance for POTWs permitted to discharge between 0.5 and 1.5 MGD. The DMR data indicate the facility has been in compliance with the pH range limitation 100% of the time during said reporting period.

i. Oil and Grease: The previous permitting action established a daily maximum oil and grease concentration limit of 15 mg/L based on a Department best professional judgment (BPJ) determination of best practicable treatment (BPT). The limitation was carried forward from previous licensing actions and rationale for including the limit was not provided in the previous permit. A review of the most recent 60 months of effluent data on file with the Department indicates no exceedances of the effluent oil and grease limitation and a maximum reported value of 9.6 mg/L (October 2002 DMR). Neither the secondary treatment requirements of Department rules nor the national effluent guideline limitations at 40 CFR, Part 407 require the regulation of oil and grease from this type of facility. The DMR data indicate the facility has been in compliance with the oil and grease limitation 100% of the time during said reporting period. The Department has no information at this time that effluent concentrations of oil and grease from the FFUD do not consistently comply with the BPJ standard or that this component of the discharge will cause or contribute to the failure of the receiving water to meet the standards of its designated classification. Therefore, this permitting action is eliminating the daily maximum concentration limit of 15 mg/L.

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

j. Total Phosphorus (total-P) and Orthophosphate (ortho-P): The previous permitting action established seasonal (June 1 – September 30 of each year) daily maximum concentration reporting requirements for total-P and ortho-P and minimum monitoring frequency requirement of three times per week. The monitoring requirement was established due to water quality concerns in receiving waters with multiple dischargers during period of low river flow conditions.

For total-P, a review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 (months of June through September only) indicates the maximum total-P concentration discharged has ranged from 4.9 mg/L to 20.0 mg/L with an arithmetic mean of 10.5 mg/L.

For ortho-P, a review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2003 – December 2005 (months of June through September only) indicates the maximum ortho-P concentration discharged has ranged from 3.9 mg/L to 19.0 mg/L with an arithmetic mean of 9.7 mg/L.

Given the results of effluent phosphorous monitoring as described above and the findings of the 2004 Aroostook River Modeling Report (see Section 5 of this fact sheet), the Department's Bureau of Land and Water Quality, Division of Environmental Assessment recommends continued phosphorus monitoring for this facility. Therefore, this permitting action is carrying forward the daily maximum reporting requirements; is establishing daily maximum mass reporting requirements; and is establishing monthly average concentration and mass reporting requirements for total-P and ortho-P. This permitting action is revising the minimum monitoring frequency requirement to twice per month (2/Month) based on a Department best professional judgment determination of the minimum level of monitoring necessary to assess phosphorus loading from this facility. Monitoring requirements are seasonal and apply during the period of June 1 through September 30, inclusive, of each year. Upon renewal of this permit in 2012 and development of final nutrient criteria, the Department will re-evaluate phosphorous limitations for this discharge.

k. Whole Effluent Toxicity (WET), Priority Pollutant, and Analytical Chemistry Testing: Maine law, 38 M.R.S.A., §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 rule, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program* sets forth effluent monitoring requirements and procedures to establish safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected and narrative and numeric water quality criteria are met. Department rule 06-096 CMR Chapter 584, Surface *Water Quality Criteria for Toxic Pollutants*, sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

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

WET, priority pollutant and analytical chemistry testing, as required by Chapter 530, is included in this permit in order to characterize the effluent. 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. Acute and chronic WET tests are performed on invertebrate water flea (*Ceriodaphnia dubia*) and vertebrate brook trout (*Salvelinus fontinalis*). Chemical-specific monitoring 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. Priority pollutant testing refers to the analysis for levels of priority pollutants listed in Department rule 06-096 CMR Chapter 525 Section 4.VI. Analytical chemistry refers to a suite of chemical tests for ammonia-nitrogen, total aluminum, total cadmium, total chromium, total copper, total hardness (fresh water only), total lead, total nickel, total silver, total zinc, total arsenic, total cyanide and total residual chlorine.

Chapter 530 §4(C), states "*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions." "The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations."* The Department has no information on the background levels of metals in the water column in the Aroostook River. Therefore, a default background concentration of 10% of applicable water quality criteria is being used in the calculations of this permitting action.

Chapter 530 §4(E), states "*In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity."*

Therefore, the Department is reserving 15% of applicable water quality criteria used in the calculations of this permitting action.

One aspect of the new Chapter 530 rule found in Section 4(F) is evaluating toxic pollutant impacts on a watershed basis. Section 4(F) states, "*Where there is more than one discharge into the same fresh or estuarine receiving water or watershed, the Department shall consider the cumulative effects of those discharges when determining the need for and establishment of the level of effluent limits. The Department shall calculate the total allowable discharge quantity for specific pollutants, less the water quality reserve and background concentration, necessary to achieve or maintain water quality criteria at all points of discharge, and in the entire watershed."* The Department

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

is currently working to construct a computer program model to conduct this analysis. Until such time the model is complete and a multi-discharger statistical evaluation can be conducted, the Department is evaluating the impact of the FFUD's discharge assuming it is the only discharger to the river. Should the multi-discharger evaluation indicate there are parameters that exceed or have a reasonable potential to exceed applicable AWQC, this permit will be reopened pursuant to Special Condition L, *Reopening of Permit For Modifications*, to incorporate additional limitations and or revise monitoring requirements.

This permit provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment, and receiving water characteristics.

Chapter 530 Section 2.B. categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV). Level III dischargers are those *"having a chronic dilution factor of at least 100 but less than 500 to 1."* The chronic dilution factor associated with the discharge from the FFUD is 190 to 1; thus, the facility is considered a Level III facility for purposes of toxics testing. Chapter 530 Section 2.D specifies WET, priority pollutant, and analytical chemistry test schedules for Level III dischargers as follows:

Level III Dischargers	WET	Priority Pollutant	Analytical
Surveillance Level (first 4 years)	1 per year	None Required	1 per year
Screening Level (last year)	1 per year	1 per year	4 per year

The previous permitting action established reduced WET testing based on the provisions of the toxics rule in effect at that time (Chapter 530.5). The FFUD was required to perform one WET test each on the water flea and brook trout in the 12-month period preceding permit expiration. The previous permit did not require surveillance level WET testing, as the facility qualified for reduced testing. The previous permitting action established accelerated chemical-specific testing at a frequency of twice per year for two years to compensate for missed testing in calendar years 1997 through 2000. The previous permit stated that upon completion of accelerated testing, the Department would evaluate the test results to determine whether the facility qualified for a reduction in chemical-specific testing to one test per five year period. A review of the Department's file for this facility does not indicate that this evaluation was performed.

A review of the data on file with the Department for the FFUD indicates that, to date, they have fulfilled the WET and chemical-specific testing requirements of the previous permitting action. 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 chemical-specific test dates.

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

WET Evaluation

Chapter 530 Section 3.E. states:

> *For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*

On April 12, 2007, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department for the FFUD in accordance with the statistical approach outlined above. **The 4/12/07 statistical evaluation indicates the discharge from the Fort Fairfield Utilities District does not exceed or have a reasonable potential to exceed the critical modified acute (2.3%) or chronic (0.49%) water quality thresholds, on an individual basis, for any of the WET species tested to date.**

Therefore, no numeric limitations for WET species are being established in this permitting action. Department rule Chapter 530 Section 2.D.3.b states, *"dischargers in Levels III and IV may be waived from surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence."* Thus, the FFUD continues to qualify for a reduction in WET testing to one round of screening testing (waived surveillance level testing). This permitting action is establishing screening level WET testing at a minimum frequency of once per year in the 12-month period preceding permit expiration.

Department rule Chapter 530 Section 2.D.4. states, *"all dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.*

(a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge."

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

This permitting action establishes Special Condition I, *Chapter 530 Certification*, pursuant to Chapter 530 Section 2.D.4. It is noted, however, that if future WET testing indicates the discharge exceeds critical water quality thresholds, this permit will be reopened in accordance with Special Condition L, *Reopening of Permit For Modification,* to establish effluent limitations and monitoring requirements as necessary.

Priority Pollutant Evaluation

On April 12, 2007, the Department conducted a statistical evaluation on the most recent 60 months of chemical-specific tests results on file with the Department for FFUD in accordance with the statistical approach outlined above. **The 4/12/07 statistical evaluation indicates the discharge from the Fort Fairfield Utilities District does not demonstrate a reasonable potential to exceed the critical ambient water quality criteria (AWQC) thresholds for any parameters tested.**

Therefore, no numeric limitations are being established in this permitting action for priority pollutants.

Pursuant to Department rule Chapter 530 Section 2.D.3.b this permitting action si carrying forward from the 4/10/06 administrative modification waived surveillance level analytical chemistry testing and the default screening level analytical chemistry and chemical specific testing requirement as specified above.

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 water body to meet standards for Class C classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Bangor Daily News* newspaper on or about February 3, 2006. 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 Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7659 Fax: (207) 287-7826
e-mail: bill.hinkel@maine.gov

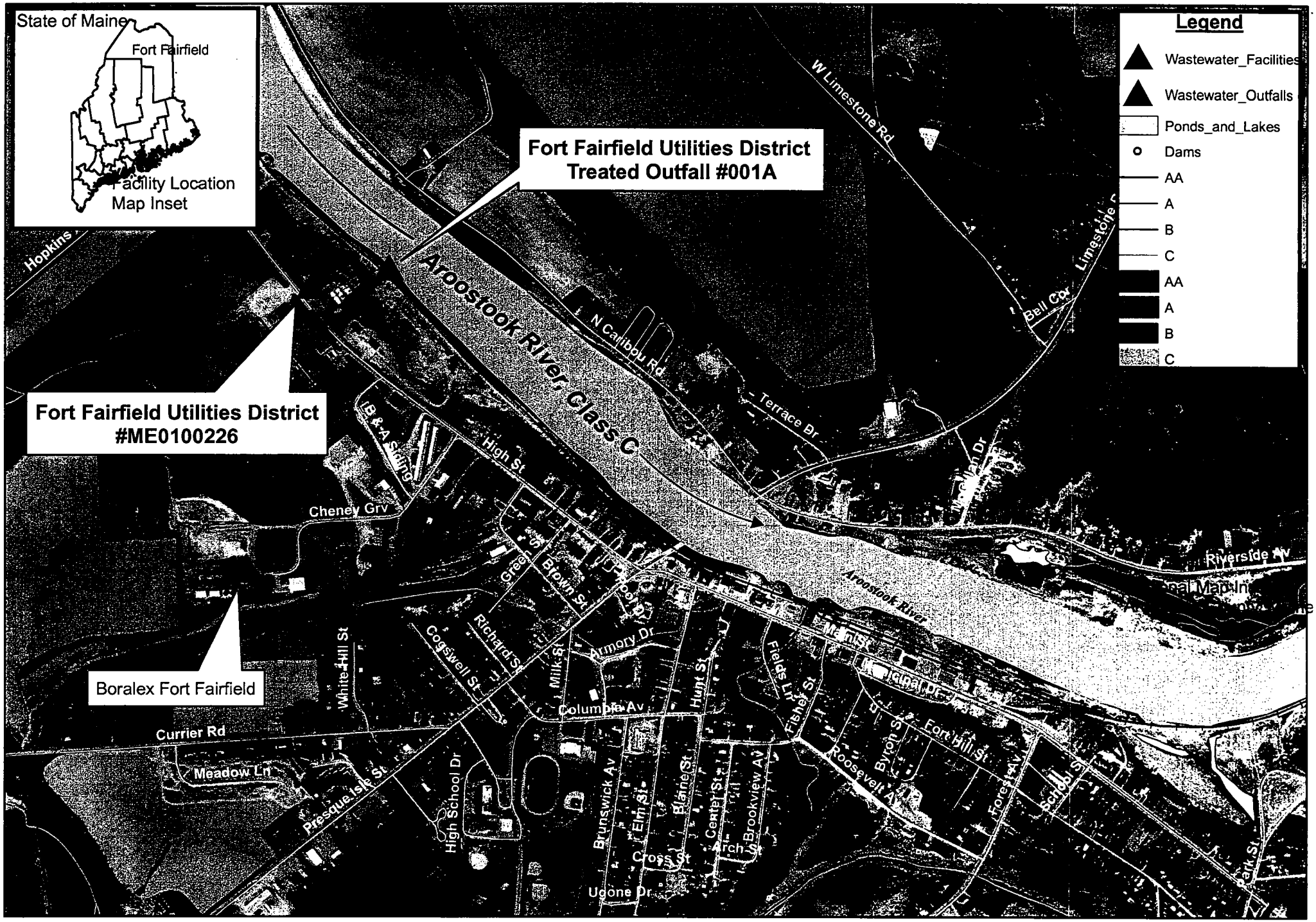
10. RESPONSE TO COMMENTS

During the period of December 15, 2006 through January 16, 2007, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit to be issued to the FFUD for the proposed discharge. The Department received no significant comments on the proposed draft permit; therefore, a response to comments was not prepared.

It is noted, however, that the proposed draft permit contained effluent limitations for inorganic arsenic based on a November 16, 2006 statistical evaluation, which indicated that the discharge demonstrated a reasonable potential (RP) to exceed the ambient water quality criteria (human health water and organism) for inorganic arsenic. The Department did not issue a final permit immediately following the close of the comment period as the Department has been developing new permit language and protocols for compliance with inorganic arsenic limits. The USEPA has not established an approved test method for inorganic arsenic, thus facilities with inorganic arsenic limits are not able to conduct compliance monitoring for this parameter. The total arsenic test result that demonstrated RP was from March 25, 2002. This test result now falls outside the 60-month period considered in statistical evaluations pursuant to Department rule Chapter 530. Therefore, all limitations and monitoring requirements (except for routine testing required by Special Condition A of the permit associated with this fact sheet) for inorganic arsenic have been eliminated from this final permit and fact sheet.

It is further noted that the proposed draft permit contained Tier I effluent limitations for BOD_5 and TSS that were calculated incorrectly. The Department inadvertently utilized a combined long-term average production rate of 180,000 lbs./day rather than the correct long-term average production rate of 215,347 lbs./day associated with Aroostook Starch and Canusa Foods. In addition, the Department discovered an error in the concentration limit calculations for Tier I BOD_5 and TSS. These errors have been corrected in the final permit.

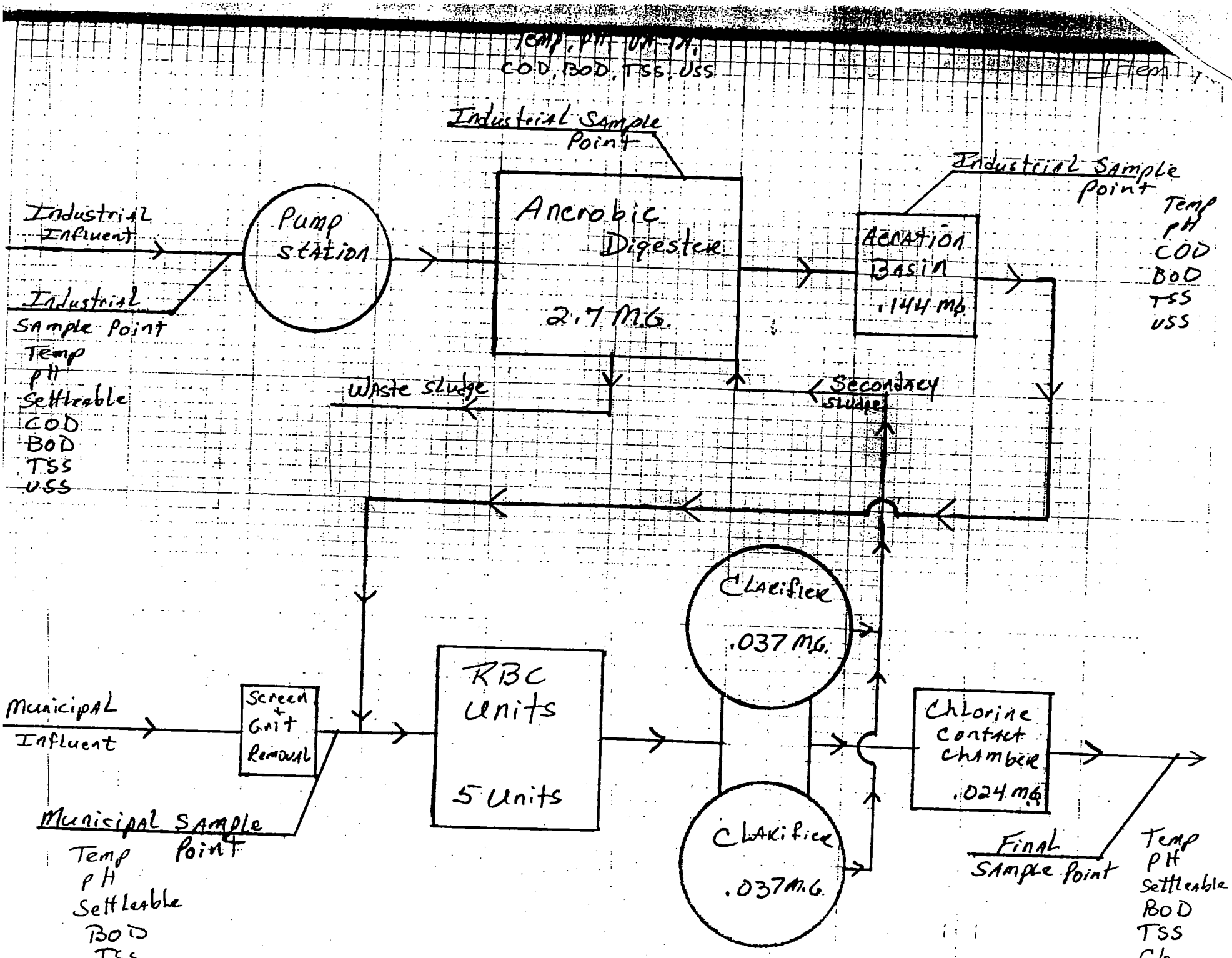
ATTACHMENT A



Fort Fairfield Utilities District at Fort Fairfield, Maine

Map created by Maine DEP
February 28, 2006

ATTACHMENT B


Temp, pH, Settleable
COD, BOD, TSS, VSS
Industrial Sample Point
Industrial Influent
Pump station
Anerobic Digester
2.7 M.G.
Aeration Basin
.144 M.G.
Industrial Sample Point
Temp
pH
COD
BOD
TSS
VSS
Industrial Sample Point
Temp
pH
Settleable
COD
BOD
TSS
VSS
Waste sludge
Secondary sludge
Clarifier
.037 M.G.
Municipal Influent
Screen + Grit Removal
RBC Units
5 Units
Chlorine contact chamber
.024 M.G.
Clarifier
.037 M.G.
Municipal Sample Point
Temp
pH
Settleable
BOD
TSS
Final Sample Point
Temp
pH
Settleable
BOD
TSS
Cl2

ATTACHMENT C

Species	Test	Test Result %	Sample Date
WATER FLEA	LC50	>100	07/06/1999
FATHEAD	A_NOEL	100.0	04/30/2000
FATHEAD	C_NOEL	100.0	04/30/2000
FATHEAD	LC50	>100.0	04/30/2000
WATER FLEA	A_NOEL	100.0	04/30/2000
WATER FLEA	C_NOEL	50.0	04/30/2000
WATER FLEA	LC50	>100.0	04/30/2000
TROUT	A_NOEL	100	08/15/2000
TROUT	C_NOEL	50	08/15/2000
WATER FLEA	A_NOEL	100	08/15/2000
WATER FLEA	C_NOEL	100	08/15/2000
TROUT	A_NOEL	31.8	06/19/2005
TROUT	C_NOEL	25.0	06/19/2005
TROUT	LC50	60.4	06/19/2005
WATER FLEA	A_NOEL	32.5	06/19/2005
WATER FLEA	C_NOEL	14.1	06/19/2005
WATER FLEA	LC50	50.0	06/19/2005

ATTACHMENT D

Sample Date: 10/02/2001
Plant flows provided

otal Tests:	122	mon.(MGD)= 0.213
issing Compounds:	2	day(MGD)= 0.201
ests With High DL:	1	
M = 1	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 03/25/2002
Plant flows provided

otal Tests:	122	mon.(MGD)= 0.304
issing Compounds:	2	day(MGD)= 0.247
ests With High DL:	1	
M = 1	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 07/23/2002
Plant flows not provided

otal Tests:	122	
issing Compounds:	2	
ests With High DL:	1	
M = 1	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 02/18/2003
Plant flows not provided

otal Tests:	122	
issing Compounds:	2	
ests With High DL:	1	
M = 1	V = 0	A = 0
BN = 0	P = 0	other = 0