STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

April 7, 2016

Mr. Kenneth W. Locke, Superintendant
City of Brewer
Brewer Water Pollution Control Facility
80 N. Main St.
Brewer, ME. 04412

Sent via electronic mail
Delivery confirmation requested

Maine Pollutant Discharge Elimination System (MEPDES) Permit #0100072
Maine Waste Discharge License (WDL) Application #W002679-5M-I-R
Proposed Draft MEPDES Permit - Renewal

Dear Mr. Locke:

Attached is a proposed draft MEPDES permit and Maine WDL which the Department proposes to issue for your facility as a final document after opportunity for your review and comment. By transmittal of this letter, you are provided with an opportunity to comment on the proposed draft permit and its special and standard conditions. If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

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

The comment period begins on April 7, 2016 and ends on May 9, 2016. All comments on the proposed draft permit must be received in the Department of Environmental Protection office on or before the close of business Monday, May 9, 2016. Failure to submit comments in a timely fashion will result in the proposed draft/license permit document being issued as drafted.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

website: www.maine.gov/dep

Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017
Cindy.L.Dionne@maine.gov

If you have any questions regarding the matter, please feel free to contact me.

Sincerely,

Cindy L. Dionne
Division of Water Quality Management
Bureau of Water Quality
ph: 207-557-5950

Enc. Barry Mower, DEA
Pamela Parker, DEP
Mike Loughlin, DEP
Lori Mitchell, DEP
Sean Mahoney, CLF
Environmental Review, DMR
David Webster, USEPA
David Pincumbe, USEPA
Alex Rosenberg, USEPA
Olga Vergara, USEPA
Marelyn Vega, USEPA
Richard Carvalho, USEPA
Environmental Review, IFW

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF BREWER	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
BREWER, PENOBSCOT COUNTY, MAINE	)	AND
ME0100072	)	WASTE DISCHARGE LICENSE
W002679-5M-I-R **APPROVAL**	)	**RENEWAL**

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

APPLICATION SUMMARY

On February 8, 2016, the Department accepted as complete for processing an application from Brewer for renewal of combination Waste Discharge License (WDL) # W002679-5M-D-R / Maine Pollutant Discharge Elimination System (MEPDES) permit # ME0100072, which was issued by the Department on May 19, 2011 for a five-year term. The May 19, 2011 permit authorized the monthly average discharge of 5.19 million gallons per day (MGD) of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) to the Penobscot River, Class B, in Brewer, Maine.

The 5/19/11 MEPDES permit also authorized the City to discharge an unspecified quantity of primary treated municipal wastewater from a POTW when the influent to the wastewater treatment facility exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD) and authorized the discharge of an unspecified quantity of untreated combined sanitary and storm water from five (5) combined sewer overflow (CSO) outfalls to the Penobscot River, Class B in Brewer, Maine.

PERMIT SUMMARY

a. Terms and conditions

This permitting action is <u>different from</u> the May 19, 2011 permit in that it:

1. Eliminates the Hardy Street CSO bypass location, and in turn, establishes Special Condition L. "*Pump Station Emergency Bypass*" for this CSO;

<u>For Secondary Treated Wastewater (Outfall #001A)</u>

2. Eliminates Special Condition R, *Waste Water Facility Energy Audit* as a final report was submitted;

3. Eliminates Special Condition P, *Asset Management Program (AMP),* as a final certificate of completion from the permittee was accepted by the Department on June 24, 2012;

4. Eliminates the seasonal, bimonthly effluent total phosphorus reporting condition;

5. Incorporates monitoring and reporting requirements for the interim mercury limitations established by the Department for this facility pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Waste discharge licenses*, 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001);

6. Reduces the monitoring and reporting requirement for BOD_5 and TSS from 5/Week to 3/Week and settleable solids from 1/Day to 4/Week;

7. Eliminates numeric limits for total copper and total lead in response to facility testing results;

8. Eliminates surveillance level whole effluent testing (WET) testing in response to facility testing results;

9. Eliminating the monthly average limitation and monitoring requirements for inorganic arsenic and total arsenic based on the results of facility testing;

<u>For Primary Treated Wastewater (Outfall #001B)</u>

10. Eliminates Surface Overflow Rate, BOD_5 and TSS percent removal, settleable solids, and pH monitoring requirements;

11. Eliminates *E.coli* bacteria and TRC limits and establishes reporting requirement;

12. Establishes Minimum Influent Flow Rate monitoring; and

PERMIT SUMMARY (cont'd)

a. Terms and conditions

For Blended Wastewater (Outfall #001C)

13. Establishes end-of-pipe limitations and reporting requirements for administrative Outfall #001C to comply with U.S. Environmental Protection Agency (USEPA) CSO Control Policy and Clean Water Act section 402(q)(1).

CONCLUSIONS

BASED on the findings in the attached and incorporated Fact Sheet dated April 7, 2016, 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, *Classification of Maine waters,* 38 M.R.S.A. § 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   (c) Where the standards of classification of the receiving waterbody are not met, the discharge will not cause or contribute to the failure of the waterbody to meet the standards of classification;

   (d) Where the actual quality of any classified receiving waterbody 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 waterbody, 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 discharges (including the four CSOs and the CSO related bypasses of secondary treatment) will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S.A. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the application of the CITY of BREWER to discharge up to a monthly average flow of 5.19 MGD of secondary treated sanitary wastewater and allows the discharge of an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from a municipal wastewater treatment facility and untreated combined sanitary and storm water from four (4) CSO outfalls to the Penobscot River, Class B, in Brewer, Maine, SUBJECT TO ALL APPLICABLE STANDARDS AND REGULATIONS AND THE FOLLOWING CONDITIONS:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable to All Permits*," revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. This permit becomes effective upon the date of signature below and expires at midnight five (5) years after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. *Maine Administrative Procedure Act,* 5 M.R.S.A. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matter*s, 06-096 CMR 2(21)(A) (amended October 19, 2015).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS ____ DAY OF _____2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
PAUL MERCER, Commissioner

Date of initial receipt of application February 5, 2016
Date of application acceptance February 8, 2016

Date filed with Board of Environmental Protection _____

This Order prepared by Cindy L. Dionne, Bureau of Water Quality

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge secondary treated sanitary wastewater from **Outfall #001A** to the Penobscot River in Brewer. These limitations and monitoring requirements apply to all flows conveyed through the secondary treatment system at all times except as otherwise noted in the associated footnotes [(1)] on pages 9-13.

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	5.19 MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
BOD_5 *[00310]*	1,298 lbs./day *[26]*	1,947 lbs./day *[26]*	Report lbs./day *[26]*	30 mg/L[(2)] *[19]*	45 mg/L[(2)] *[19]*	50 mg/L[(2)] *[19]*	3/Week *[03/07]*	Composite *[24]*
BOD_5 *[00310]* ***(When bypass is active)***	1,298 lbs./day *[26]*	1,947 lbs./day *[26]*	Report lbs./day *[26]*	30 mg/L[(2)] *[19]*	45 mg/L[(2)] *[19]*	Report mg/L[(2)] *[19]*	3/Week *[03/07]*	Composite *[24]*
BOD_5 Percent Removal [(3)] *[81010]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
TSS *[00530]*	1,298 lbs./day *[26]*	1,947 lbs./day *[26]*	Report lbs./day *[26]*	30 mg/L[(2)] *[19]*	45 mg/L[(2)] *[19]*	50 mg/L[(2)] *[19]*	3/Week *[03/07]*	Composite *[24]*
TSS *[00530]* ***(When bypass is active)***	1,298 lbs./day *[26]*	1,947 lbs./day *[26]*	Report lbs./day *[26]*	30 mg/L[(2)] *[19]*	45 mg/L[(2)] *[19]*	Report mg/L[(2)] *[19]*	3/Week *[03/07]*	Composite *[24]*
TSS Percent Removal [(3)] *[81011]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	4/Week *[04/07]*	Grab *[GR]*
Escherichia coli (E. coli) Bacteria [(4,5)] *[31633]* *May 15th – September 30th*	---	---	---	64/100 ml[(5)] *[13]*	---	427/100 ml *[13]*	3/Week *[03/07]*	Grab *[GR]*
Total Residual Chlorine [(6)] *[50060]*	---	---	---	---	---	1.0 mg/L *[19]*	1/Day *[01/01]*	Grab *[GR]*
pH *[00400]*	---	---	---	---	---	6.0 – 9.0 SU *[12]*	1/Day *[01/01]*	Grab *[GR]*
Mercury (Total) [(7)] *[71900]*	---	---	---	4.5 ng/L *[3M]*	---	6.8 ng/L *[3M]*	1/Year *[01/YR]*	Grab *[GR]*

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

SPECIAL CONDITIONS

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

2. The permittee is authorized to discharge **secondary treated municipal wastewaters from Outfall #001A** to the Penobscot River in Brewer. Such discharges must be limited and monitored by the permittee as specified below [(1)]:

SCREENING LEVEL - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the term of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
WET Acute No Observed Effect Limit (NOEL) [(8)]						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report % *[23]*	1/Year *[01/YR]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TDA6F]*	---	---	---	Report % *[23]*	1/Year *[01/YR]*	Composite *[24]*
Chronic – NOEL						
Ceriodaphnia dubia (Water flea) *[TBP3B]*	---	---	---	Report % *[23]*	1/Year *[01/YR]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TBQ6F]*	---	---	---	Report % *[23]*	1/Year *[01/YR]*	Composite *[24]*
Analytical chemistry [(9)] *[51477]*	---	---	---	Report µg/L *[28]*	1/Quarter *[01/90]*	Composite/Grab *[24]*
Priority Pollutant [(9)] *[50008]*	---	---	---	Report µg/L *[28]*	1/Year *[01/YR]*	Composite/Grab *[24]*

Footnotes: See Pages 9-13 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

3. **PRIMARY TREATED WASTEWATER (Administrative OUTFALL #001B – Primary Treatment Only)**

Consistent with CSO bypass regulations, the permittee is allowed to bypass secondary treatment and provide primary treatment only prior to combining with secondary treated wastewater. Bypassing secondary treatment is allowed when the influent to the wastewater treatment facility exceeds a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD). Allowance to bypass secondary treatment will be reviewed and may be modified or terminated pursuant to Special Condition Q, *Reopening of Permit for Modification*, if there is substantial change in the volume or character of pollutants in the collection/treatment system. Also see supplemental report form, *DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifier*, **Attachment E** of this permit. Outfall 001B must be monitored as follows **(1)**:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly Average	**Daily Maximum**	**Monthly Average**	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
Influent Flow Rate Minimum *[00058]*	---	Report (gpm) **(10)** *[78]*	---	---	Instantaneous *[01/99]*	Recorder *[RC]*
Flow *[50050]*	Report (Total MGD) *[03]*	Report (MGD) *[03]*	---	---	Continuous *[99/99]*	Recorder *[RC]*
BOD_5 *[00310]*	---	Report lbs./day *[26]*	---	Report mg/L *[19]*	1/Discharge Day **(11,14)** *[01/DD]*	Composite *[24]*
TSS *[00530]*	---	Report lbs./day *[26]*	---	Report mg/L *[19]*	1/Discharge Day **(11,14)** *[01/DD]*	Composite *[24]*
Overflow Occurrence **(12)** *[74062]*	---	---	Report (# of days) *[93]*	---	1/Discharge Day **(11)** *[01/DD]*	Record Total *[RT]*
E. coli Bacteria *[31633] (May 15 – September 30)*	---	---	---	Report col/100 ml *[13]*	1/Discharge Day **(11,14)** *[01/DD]*	Grab *[GR]*
Total Residual Chlorine *[50060]*	---	---	--	Report mg/L *[19]*	1/Discharge Day **(11,14)** *[01/DD]*	Grab *[GR]*

Footnotes: See Pages 9-13 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

4. **BLENDED EFFLUENT (Administrative OUTFALL #001C)**

Consistent with CSO bypass regulations, the permittee is allowed to discharge primary and secondary treated wastewater (blended effluent - Outfall #001C (administrative outfall)) to the Penobscot River. Bypassing secondary treatment is allowed when the influent to the wastewater treatment facility exceeds a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD). Allowance to bypass secondary treatment will be reviewed and may be modified or terminated pursuant to Special Condition Q, *Reopening of Permit for Modification*, if there is substantial change in the volume or character of pollutants in the collection/treatment system. Also see supplemental report form, *DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifier*, **Attachment E** of this permit. Outfall 001C must be monitored as follows **(1)**:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Monthly Average	**Daily Maximum**	**Monthly Average**	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
Flow *[50050]*	Report (Total MGD) *[03]*	Report (MGD) *[03]*	---	---	1/Discharge Day **(11)** *[01/DD]*	Calculate *[CA]*
BOD_5 **(13)** *[00310]*	---	3,845 lbs./day *[26]*	---	Report mg/L *[19]*	1/Discharge Day **(11,14)** *[01/DD]*	Calculate *[CA]*
TSS **(13)** *[00530]*	---	5,606 lbs./day *[26]*	---	Report mg/L *[19]*	1/Discharge Day **(11,14)** *[01/DD]*	Calculate *[CA]*
E. coli Bacteria **(4)** *[31633] (May 15 – September 30)*	---	---	---	427 col/100 ml *[13]*	1/Discharge Day **(11,14)** *[01/DD]*	Calculate *[CA]*
Total Residual Chlorine **(6)** *[50060]*	---	---	---	1.0 mg/L *[19]*	1/Discharge Day **(11,14)** *[01/DD]*	Calculate *[CA]*

Footnotes: See Pages 9-13 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

Footnotes

1. **Sampling** – The permittee must conduct all effluent sampling and analysis in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended April 1, 2010). If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR.

   Sampling Locations – Any change in sampling location(s) other than those specified below must be reviewed and approved by the Department in writing.

   Influent
   Flow, BOD_5 and TSS must be sampled after the aerated grit chamber but before the Parshall flumes measuring flow into the treatment plant.

   Effluent receiving secondary treatment (Outfall #001A)

   a. During normal operations when all flows conveyed to the treatment facility are receiving secondary treatment, samples for all parameters must be collected after the chlorine contact chamber.

   b. During times of secondary bypass events (when Outfall #001B is active) wastewater receiving secondary treatment must be sampled for all parameters (with the exception of total residual chlorine (TRC) and *E. coli* bacteria) after the secondary clarifiers but before the Parshall flume (dedicated to the secondary treated waste stream) and chlorine contact chamber. TRC and *E. coli* bacteria must be sampled after the chlorine contact chamber.

   Effluent receiving primary treatment (Internal Waste Stream - Outfall #001B)
   BOD_5 and TSS must be sampled after the primary settling units but before the Parshall flume (dedicated to the primary treated waste stream) and prior to combining with the secondary treated effluent in the chlorine contact chamber.

SPECIAL CONDITIONS

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

Footnotes (cont'd)

2. **BOD_5 & TSS** – When the bypass of secondary treatment is active, sample results obtained for these parameters are not to be included in calculations to determine compliance with monthly or weekly average limitations. Also, when the bypass of secondary treatment is active, the daily maximum concentration limit of 50 mg/L for BOD_5 and TSS at Outfall #001A is not in effect.

3. **Percent Removal** – The permittee must achieve a minimum of 85 percent removal of both TSS and BOD_5 for all flows receiving secondary treatment. The percent removal is calculated based on influent and effluent concentration values. The percent removal will be waived if the calculated percent removal is less than 85% and when the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility may report "*N9*" on the monthly Discharge Monitoring Report (DMR).

4. ***E. coli* bacteria –** *E. coli* bacteria limits and monitoring requirements are seasonal and apply between May 15th and September 30th of each year. In accordance with 38 M.R.S.A. § 414-A(5), the Department may, at any time and with notice to the permittee, modify this permit to establish bacteria limitations on a year-round basis to protect the health and welfare of the public.

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

6. **TRC** – Limitations and monitoring requirements are applicable whenever elemental chlorine or chlorine based compounds are being used to disinfect the discharge. The permittee must utilize approved test methods that are capable of bracketing the limitations in this permit.

7. **Mercury** – The permittee must conduct all mercury monitoring required by this permit or required to determine compliance with interim limitations established pursuant to 06-096 CMR 519 in accordance with the USEPA's "clean sampling techniques" found in USEPA Method 1669, *Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels*. All mercury analysis must be conducted in accordance with USEPA Method 1631, *Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry*. See **Attachment A** of this permit for a Department report form for mercury test results. Compliance with the monthly average limitation established in Special Condition A of this permit will be based on the cumulative arithmetic mean of all mercury tests results that were conducted utilizing sampling Methods 1669 and analysis Method 1631E on file with the Department for this facility.

SPECIAL CONDITIONS

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

Footnotes (cont'd)

8. WET Testing – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions set at levels to bracket the modified acute and chronic critical water quality thresholds of 1.1% and 0.2%, 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 and chronic dilution factors of 92:1 and 405:1, respectively, for Outfall #001A.

Test results must be submitted to the Department no later than the next 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 must evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 1.1% and 0.2%, respectively.

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 as modified by Department protocol for salmonids. See **Attachment C** of this permit for the Department protocol.

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. USEPA 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. USEPA 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 must be reported on the "Whole Effluent Toxicity Report Fresh Waters" form included as **Attachment B** of this permit each time a WET test is performed.

The permittee must analyze the effluent for the analytical chemistry and priority pollutant 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.

SPECIAL CONDITIONS

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

Footnotes (cont'd)

9. Analytical chemistry and **Priority Pollutant testing** – Refers to those pollutants listed in their respective categories on the form included as **Attachment D** of this permit.

Analytical chemistry and priority pollutant test results must be submitted to the Department not later than the next 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 must evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective July 29, 2012). For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "N-9" monitoring not required this period.

Analytical chemistry and priority pollutant testing must be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable, and must be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve the most current minimum reporting levels of detection as specified by the Department.

10. Influent Flow Rate Minimum – The permittee must report the minimum instantaneous influent flow rate entering the headworks of the plant at the time each bypass of secondary treatment is activated.

11. Discharge Day – A discharge day is defined as a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

12. Overflow Occurrence – An overflow occurrence is defined as the period of time between initiation and cessation of flow from the storm flow chlorine contact tank. Overflow occurrences are reported in discharge days. Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified.

13. BOD_5 & TSS – As stated in Footnote #14, sampling of the bypass waste stream (blended primary plus secondary) is only required when it coincides with the scheduled sampling event for the secondary.

When quantifying the blended effluent, the permittee has the option to calculate the discharge characteristics of the final effluent discharged to the receiving water. To do this, the permittee must mathematically add the monthly average mass of BOD_5 and TSS of the secondary treated wastewater (Outfall #001A) to each of the daily BOD_5 and TSS

SPECIAL CONDITIONS

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

Footnotes (cont'd)

mass values of the primary treated wastewater when the bypass is active and report the highest combined mass of BOD_5 and TSS values for each month. Example calculation is as follows:

BOD_5 mass (monthly average for secondary) + BOD_5 mass (highest for bypass) =BOD_5 mass (blended effluent)

All calculations and data utilized must be submitted to the Department with the applicable monthly DMR.

14. BOD $_5$, TSS, *E. coli* bacteria, TRC – Sampling to comply with the 1/Discharge Day monitoring requirement is only required if it coincides with the 3/Week monitoring requirement on the secondary treated effluent waste stream.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the uses designated for the classification of the receiving waters.

2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated for the classification of the receiving waters.

3. The permittee must not discharge effluent that causes visible discoloration or turbidity in the receiving waters or otherwise impairs the uses designated for the classification of the receiving waters.

4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The person who has management responsibility over the treatment facility must hold a Maine **Grade V** certificate (or higher) or must be a Maine Registered Professional Engineer pursuant to *Sewerage Treatment Operators*, 32 M.R.S.A. § 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 CMR 531 (effective May 8, 2006). 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.

SPECIAL CONDITIONS

D. NOTIFICATION REQUIREMENT

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

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

2. Any substantial change (increase or decrease) in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants into the system at the time of permit issuance.

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

   (a) The quality and quantity of wastewater introduced to the wastewater collection and treatment system; and

   (b) Any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

E. MONITORING AND REPORTING

Monitoring results obtained during the previous month must be summarized for each month and reported on separate 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 DMRs 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 must be submitted to the Department-assigned inspector (unless otherwise specified by the Department) at the following address:

Department of Environmental Protection
Eastern Maine Regional Office
Bureau of Water Quality
Division of Water Quality Management
106 Hogan Road
Bangor, Maine 04401

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

SPECIAL CONDITIONS

E. MONITORING AND REPORTING (cont'd)

fifteenth (15^{th}) day of the month following the completed reporting period. Electronic documentation in support of the DMR must be submitted not later than close of business on the 15^{th} day of the month following the completed reporting period.

F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the wastewater collection and treatment system by a non-domestic source (user) must not pass through or interfere with the operation of the treatment system. The permittee must conduct an Industrial Waste Survey (IWS) any time a new industrial user proposes to discharge within its jurisdiction; an existing user proposes to make a significant change in its discharge; or at an alternative minimum, once every permit cycle, and submit the results to the Department. The IWS must identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of the federal Clean Water Act, 40 CFR Part 403 (general pretreatment regulations) or *Pretreatment Program*, 06-096 CMR 528 (last amended March 17, 2008).

G. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on February 8, 2016; 2) the terms and conditions of this permit; and 3) only from Outfall #001A, #001B, #001C and four (4) combined sewer overflow outfalls listed in Special Condition K, *Combined Sewer Overflows*, of this permit. Discharges of wastewater from any other point source are not authorized under this permit, and must be reported in accordance with Standard Condition D(1)(f), *Twenty-four hour reporting*, of this permit.

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff must have a current written Wet Weather Flow 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.

The plan must conform to Department guidelines for such plans and must 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.

SPECIAL CONDITIONS

H. WET WEATHER FLOW MANAGEMENT PLAN (cont'd)

The permittee must review their plan at least annually and record any necessary changes to keep the plan up to date. The Department may require review and update of the plan as it is determined to be necessary.

I. OPERATION & MAINTENANCE (O&M) PLAN

The permittee must maintain a current written comprehensive Operation & Maintenance (O&M) Plan for the facility. The plan must provide a systematic approach by which the permittee must at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

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

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

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream **a daily maximum of 52,000 gallons per day** of transported wastes, subject to the following terms and conditions.

1. **"**Transported wastes" means any liquid non-hazardous waste delivered to a wastewater treatment facility by a truck or other similar conveyance that has different chemical constituents or a greater strength than the influent described on the facility's application for a waste discharge license. Such wastes may include, but are not limited to septage, industrial wastes or other wastes to which chemicals in quantities potentially harmful to the treatment facility or receiving water have been added.

2. The character and handling of all transported wastes received must be consistent with the information and management plans provided in application materials submitted to the Department.

3. At no time may the addition of transported wastes cause or contribute to effluent quality violations. Transported wastes may not cause an upset of or pass through the treatment

SPECIAL CONDITIONS

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY (cont'd)

process or have any adverse impact on the sludge disposal practices of the wastewater treatment facility.

Wastes that contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation must be refused. Odors and traffic from the handling of transported wastes may not result in adverse impacts to the surrounding community. If any adverse effects exist, the receipt or introduction of transported wastes into the treatment process or solids handling stream must be suspended until there is no further risk of adverse effects.

4. The permittee must maintain records for each load of transported wastes in a daily log which must include at a minimum the following.

   (a) The date;
   (b) The volume of transported wastes received;
   (b) The source of the transported wastes;
   (d) The person transporting the transported wastes;
   (e) The results of inspections or testing conducted;
   (f) The volumes of transported wastes added to each treatment stream; and
   (g) The information in (a) through (d) for any transported wastes refused for acceptance.

   These records must be maintained at the treatment facility for a minimum of five years.

5. The addition of transported wastes into the treatment process or solids handling stream must not cause the treatment facility's design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of transported wastes into the treatment process or solids handling stream must be reduced or terminated in order to eliminate the overload condition.

6. Holding tank wastewater from domestic sources to which no chemicals in quantities potentially harmful to the treatment process have been added must not be recorded as transported wastes but should be reported in the treatment facility's influent flow.

7. During wet weather events, transported wastes may be added to the treatment process or solids handling facilities only in accordance with a current Wet Weather Flow Management Plan approved by the Department that provides for full treatment of transported wastes without adverse impacts.

8. In consultation with the Department, chemical analysis is required prior to receiving transported wastes from new sources that are not of the same nature as wastes previously received. The analysis must be specific to the type of source and designed to identify concentrations of pollutants that may pass through, upset or otherwise interfere with the facility's operation.

SPECIAL CONDITIONS

J. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY (cont'd)

9. Access to transported waste receiving facilities may be permitted only during the times specified in the application materials and under the control and supervision of the person responsible for the wastewater treatment facility or his/her designated representative.

10. The authorization is subject to annual review and, with notice to the permittee and other interested parties of record, may be suspended or reduced by the Department as necessary to ensure full compliance with Chapter 555 of the Department's rules and the terms and conditions of this permit.

K. COMBINED SEWER OVERFLOWS (CSO's)

Pursuant to *Combined Sewer Overflow Abatement*, 06-096 CMR 570 (last amended February 5, 2000), the permittee is authorized to discharge from the following locations of CSO's (stormwater and sanitary wastewater) subject to the conditions and requirements herein.

1. CSO locations

Outfall Number	Outfall Location	Receiving Water and Class
002	Oak Grove	Penobscot River, Class B
003	James Street	Penobscot River, Class B
008	South Main Street	Penobscot River, Class B
010	Brewer Cove	Penobscot River, Class B

2. Prohibited Discharges

   a) The discharge of dry weather flows is prohibited. All such discharges must be reported to the Department in accordance with Standard Condition D (1) of this permit.

   b) No discharge may occur as a result of mechanical failure, improper design or inadequate operation or maintenance.

   c) No discharges may occur at flow rates below the maximum design capacities of the wastewater treatment facility, pumping stations or sewerage system.

3. Narrative Effluent Limitations

   a) The effluent must not contain a visible oil sheen, settled substances, foam, or floating solids at any time that impair the characteristics and designated uses ascribed to the classification of the receiving waters.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's)

b) The effluent must not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life; or which would impair the usage designated by the classification of the receiving waters.

c) The discharge must not impart color, turbidity, toxicity, radioactivity or other properties that cause the receiving waters to be unsuitable for the designated uses and other characteristics ascribed to their class.

d) The effluent by itself or in combination with other discharges 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.

4. CSO Master Plan [see 06-096 CMR 570(3) and 06-096 CMR 570(4)]

The permittee must implement CSO control projects in accordance with an approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled *Sewer System Master Plan For CSO Abatement*, dated June 1993 was approved on April 12, 1995 and the abatement project schedule was last amended on January 15, 2004 and approved by the Department on January 26, 2004. The most current Master Plan, *Updated Sewer System Master Plan for CSO Abatement* dated December 2014 with abatement schedule was approved on November 2, 2015.

On or before December 31, 2016, ***(ICIS Code CS016)*** the permittee must complete the sewer separation projects referred to as Category I projects in the most recently approved Master Plan, except the Church Street project may be completed no later than June 30, 2017.

On or before December 31, 2017, (*ICIS Code CS010*) the permittee must provide a Status/Progress report confirming that the remaining Category II projects will be constructed or provide justification for changes to the project completion dates approved as part of the current Master Plan.

On or before December 31, 2021, ***(ICIS Code 81699)*** the permittee must submit to the Department for review and approval an updated CSO Long Term Control Plan, a.k.a. Master Plan that analyzes the effectiveness of the abatement projects to date and if necessary, includes an implementation schedule for additional abatement projects.

To modify the dates and or projects specified in Special Condition A(4) of this permit (but not dates in the Master Plan), the permittee must file an application with the Department to formally modify this permit. The work items identified in the abatement schedule may be amended from time to time based upon approval by the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's) (cont'd)

5. Nine Minimum Controls (NMC) [see 06-096 CMR 570(5)]

   The permittee must implement and follow the Nine Minimum Controls documentation as approved by USEPA on May 29, 1997. Work performed on the Nine Minimum Controls during the year must be included in the annual CSO Progress Report (see below).

6. CSO Compliance Monitoring Program [see 06-096 CMR 570(6)]

   The permittee must conduct block testing or flow monitoring according to an approved *Compliance Monitoring Program* on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations must be determined by actual flow monitoring, or by estimation using a model such as USEPA's Storm Water Management Model (SWMM).

   Results must be submitted annually as part of the annual *CSO Progress Report* (see below), and must include annual precipitation, CSO volumes (actual or estimated) and any block test data required. Any abnormalities during CSO monitoring must also be reported. The results must be reported on the Department form *"CSO Activity and Volumes"* (**Attachment F** of this permit) or similar format and submitted to the Department in electronic format.

   CSO control projects that have been completed must be monitored for volume and frequency of overflow to determine the effectiveness of the project toward CSO abatement. This requirement does not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

7. Additions of New Wastewater [see 06-096 CMR 570(8)]

   Chapter 570 Section 8 lists requirements relating to any proposed addition of wastewater to the combined sewer system. Documentation of the new wastewater additions to the system and associated mitigating measures must be included in the annual *CSO Progress Report* (see below). Reports must contain the volumes and characteristics of the wastewater added or authorized for addition and descriptions of the sewer system improvements and estimated effectiveness.

8. Annual CSO Progress Reports [see 06-096 CMR 570(7)]

   By March 1, of each year ***(ICIS Code CS010)***, the permittee must submit *CSO Progress Reports* covering the previous calendar year (January 1 to December 31). The CSO Progress Report must include, but is not necessarily limited to, the following topics as

SPECIAL CONDITIONS

K. COMBINED SEWER OVERFLOWS (CSO's) (cont'd)

further described in Chapter 570: CSO abatement projects, schedule comparison, progress on inflow sources, costs, flow monitoring results, CSO activity and volumes, nine minimum controls update, sewer extensions, and new commercial or industrial flows.

The CSO Progress Reports must be completed on a standard form entitled *"Annual CSO Progress Report"*, furnished by the Department, and submitted in electronic form, if possible, to the following address:

CSO Coordinator
Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@maine.gov

9. Signs

If not already installed, the permittee must install and maintain an identification sign at each CSO location as notification to the public that intermittent discharges of untreated sanitary wastewater occur. The sign must be located at or near the outfall and be easily readable by the public. The sign must be a minimum of 12" x 18" in size with white lettering against a green background and must contain the following information:

CITY OF BREWER
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME

10. Definitions

For the purposes of this permitting action, the following terms are defined as follows:

a. Combined Sewer Overflow - a discharge of excess wastewater from a municipal or quasi-municipal sewerage system that conveys both sanitary wastes and storm water in a single pipe system and that is in direct response to a storm event or snowmelt.

b. Dry Weather Flows - flow in a sewerage system that occurs as a result of non-storm events or are caused solely by ground water infiltration.

c. Wet Weather Flows - flow in a sewerage system that occurs as a direct result of a storm event, or snowmelt in combination with dry weather flows.

SPECIAL CONDITIONS

L. PUMP STATION EMERGENCY BYPASSES

Discharges from emergency bypass structures in pump stations are not authorized by this permit. The permittee must monitor the overflow points identified below to record frequency, duration and estimation of flow discharged, as long as the Emergency By-pass requires manual opening of the by-pass valve. The permittee must report any discharges from the pump station(s) in accordance with Standard Condition D (1)(f), *Twenty-four hour reporting*, and Special Conditions E, *Authorized Discharges*, of this permit.

Outfall Number	Outfall Location	Receiving Water and Class
006	Hardy Street P.S.	Penobscot River, Class B

M. 06-096 CMR 530(2)(D)(4) STATEMENT FOR REDUCED/WAIVED TOXICS TESTING

By December 31 of each calendar year, the permittee must provide the Department with a certification describing any of the following that have occurred since the effective date of this permit ***[ICIS Code 75305]***. See **Attachment C** of the Fact Sheet for an acceptable certification form to satisfy this Special Condition.

(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;

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

In addition, in the comments section of the certification form, the permittee must provide the Department with statements describing;

(d) Changes in stormwater collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge; and

(e) Increases in the type or volume of transported (hauled) wastes accepted by the facility.

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

N. AMBIENT WATER QUALITY MONITORING

Between July 1 and September 30 of each year, the permittee is required to participate in the monitoring of ambient water quality on the Penobscot River pursuant to a Department

SPECIAL CONDITIONS

N. AMBIENT WATER QUALITY MONITORING (cont'd)

prepared monitoring plan. The total cost to the permittee for the monitoring program must not exceed a five-year (term of the permit) cap of $1,000.

O. REPAIR AND REPLACEMENT RESERVE ACCOUNT

On or before August 1, 2016 the permittee must submit a certification to the Department indicating a Repair and Replacement Reserve Account has been fully funded ***(ICIS Code 59499)***. See **Attachment G** of this permit for a copy of the certification form. The permittee must attach a copy of the yearly audit report to the annual certification form showing funds in the reserve account and, if funds were expended, what the funds were used for.

P. REOPENING OF PERMIT FOR MODIFICATIONS

In accordance with 38 M.R.S.A. § 414-A(5) and 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 any time and with notice to the permittee, modify this permit to: (1) include effluent limitations 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.

Q. 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 must remain in full force and effect, and must be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

CONTENTS

A. GENERAL PROVISIONS

1. **General compliance**. All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

2. Other materials. Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

(a) They are not

(i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
(ii) Known to be hazardous or toxic by the licensee.

(b) The discharge of such materials will not violate applicable water quality standards.

3. Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
(b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

4. Duty to provide information. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

5. Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Reopener clause. The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

7. Oil and hazardous substances. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

8. Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Confidentiality of records. 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

10. Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

11. Other laws. The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee if its obligation to comply with other applicable Federal, State or local laws and regulations.

12. Inspection and entry. The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B. OPERATION AND MAINTENACE OF FACILITIES

1. General facility requirements.

(a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

(b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.

(c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.

(d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.

(e) The permittee shall install flow measuring facilities of a design approved by the Department.

(f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

2. Proper operation and maintenance. 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. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

3. Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Bypasses.

(a) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

(c) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).

(d) Prohibition of bypass.

(i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(C) The permittee submitted notices as required under paragraph (c) of this section.

(ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

6. Upsets.

(a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;
(ii) The permitted facility was at the time being properly operated; and
(iii) The permittee submitted notice of the upset as required in paragraph D(1)(f) , below. (24 hour notice).
(iv) The permittee complied with any remedial measures required under paragraph B(4).

(d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING AND RECORDS

1. General Requirements. This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.

2. Representative sampling. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

3. Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

(c) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;
(ii) The individual(s) who performed the sampling or measurements;
(iii) The date(s) analyses were performed;
(iv) The individual(s) who performed the analyses;
(v) The analytical techniques or methods used; and
(vi) The results of such analyses.

(d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.

(e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

D. REPORTING REQUIREMENTS

1. Reporting requirements.

(a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

(e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(f) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance

has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit.
(B) Any upset which exceeds any effluent limitation in the permit.
(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.

(h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

2. Signatory requirement. All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

3. Availability of reports. Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

4. Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 ug/l);
(ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

(b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following ``notification levels'':

(i) Five hundred micrograms per liter (500 ug/l);
(ii) One milligram per liter (1 mg/l) for antimony;
(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

5. Publicly owned treatment works.

(a) All POTWs must provide adequate notice to the Department of the following:

(i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
(ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
(iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

E. OTHER REQUIREMENTS

1. Emergency action - power failure. Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

(a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.

(b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

2. Spill prevention. (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminates and shall specify means of disposal and or treatment to be used.

3. **Removed substances.** Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

4. **Connection to municipal sewer.** (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

F. DEFINITIONS. For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

Average weekly discharge limitation means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Composite sample means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

Continuous discharge means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Flow weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab sample means an individual sample collected in a period of less than 15 minutes.

Interference means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Maximum daily discharge limitation means the highest allowable daily discharge.

New source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

Pass through means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

Person means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

Point source means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works ("POTW") means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

Septage means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

Time weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

Toxic pollutant includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.

ATTACHMENT A

MERCURY REPORT - Clean Test Only

Data Date Range: 01/Jan/2009 - 20/Jan/2016

Facility: **BREWER** **Permit Number:** ME0100072

Max (ug/l): 0.0024 **Average (ug/l):** 0.0014

Sample Date	Result (ng/l)	Lsthan	Clean
03/24/2009	2.43	N	T
06/28/2009	2.12	N	T
09/25/2009	0.74	N	T
12/31/2009	1.11	N	T
03/22/2010	2.22	N	T
05/26/2010	1.15	N	T
09/30/2010	2.07	N	T
12/21/2010	1.10	N	T
03/29/2011	1.34	N	T
06/29/2011	0.81	N	T
09/19/2011	1.07	N	T
12/14/2011	0.96	N	T
07/22/2012	0.76	N	T
07/30/2013	1.09	N	T
06/16/2014	1.28	N	T
08/03/2015	1.40	N	T

ATTACHMENT B

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
FRESH WATERS

Facility Name _____ MEPDES Permit # _____

Pipe # _____

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 _____ (mm/dd/yy) Date Tested _____ (mm/dd/yy)

Chlorinated? _____ Dechlorinated? _____

Results	**% effluent**		Effluent Limitations	
	water flea	**trout**		
A-NOEL			A-NOEL	
C-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 C

Salmonid Survival and Growth Test

The Salmonid survival and growth test must follow the procedures for the fathead minnow larval survival and growth tests detailed in USEPA's freshwater acute and chronic methods manuals with the following Department modifications:

Species - Brook Trout, *Salvelinus fontinalis*, or other salmonid approved by the Department.

Age - Less than six months old for the first test each year and less than twelve months for subsequent tests.

Size - The largest fish must not be greater than 150% of the smallest.

Loading Rate - < 0.5 g/l/day

Feeding rate - 5% of body weight 3 times daily (15%/day)

Temperature - 12° ± 1°C

Dissolved Oxygen - 6.5 mg/l ,aeration if needed with large bubbles (> 1 mm diameter) at a rate of <100/min

Dilution Water - Receiving water upstream of discharge (or other ambient water approved by the Department)

Dilution Series - A minimum of 5 effluent concentrations (including the instream waste concentrations bracketing acute and chronic dilutions calculated pursuant to Section D); a receiving water control; and control of known suitable water quality

Duration - Acute = 48 hours
- Chronic = 10 days minimum

Test acceptability - Acute = minimum of 90% survival in 2 days
Chronic = minimum of 80% survival in 10 days; minimum growth of 20 mg/gm/d dry weight in controls, (individual fish weighed, dried at 100°C to constant weight and weighed to 3 significant figures)

ATTACHMENT D

Maine Department of Environmental Protection
WET and Chem
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)	f				

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

Last Revision - July 1, 2015

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)**		**Possible Exceedence [7]**		
			Acute	Chronic			WET Result, % Do not enter % sign	Reporting Limit Check	Acute	Chronic	
	WHOLE EFFLUENT TOXICITY										
	Trout - Acute										
	Trout - Chronic										
	Water Flea - Acute										
	Water Flea - Chronic										
	WET CHEMISTRY										
	pH (S.U.) (9)										
	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, TOTAL	5				(8)					
	CYANIDE, AVAILABLE [3a]	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 Chem
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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	5									
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	20									
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	5									
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	5									
BN	BENZO(G,H,I)PERYLENE	5									
BN	BENZO(K)FLUORANTHENE	5									
BN	BIS(2-CHLOROETHOXY)METHANE	5									
BN	BIS(2-CHLOROETHYL)ETHER	6									
BN	BIS(2-CHLOROISOPROPYL)ETHER	6									
BN	BIS(2-ETHYLHEXYL)PHTHALATE	10									
BN	BUTYLBENZYL PHTHALATE	5									
BN	CHRYSENE	5									
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									
BN	FLUORANTHENE	5									

Maine Department of Environmental Protection
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BN	FLUORENE	5									
BN	HEXACHLOROBENZENE	5									
BN	HEXACHLOROBUTADIENE	5									
BN	HEXACHLOROCYCLOPENTADIENE	10									
BN	HEXACHLOROETHANE	5									
BN	INDENO(1,2,3-CD)PYRENE	5									
BN	ISOPHORONE	5									
BN	N-NITROSODI-N-PROPYLAMINE	10									
BN	N-NITROSODIMETHYLAMINE	5									
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									
V	ACROLEIN	NA									
V	ACRYLONITRILE	NA									
V	BENZENE	5									

Maine Department of Environmental Protection
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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.

(3a) Cyanide, Available (Cyanide Amenable to Chlorination) is not an analytical chemistry parameter, but may be required by certain discharge permits .

(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:

ATTACHMENT E

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP-49-CSO FORM FOR USE WITH DEDICATED CSO PRIMARY CLARIFIERS

Doc Num: DEPLW0463

DEP-49-CSO-Dedicated.xls (rev. 12/12/01)

WET WEATHER BYPASS OPERATIONS REPORT FOR _____ State License No. _____ MEPDES/NPDES Permit No. _____ SIGNED BY:_____ DATE:_____

DATE	SECONDARY BYPASS FLOW DATA						Cl RESIDUALS				BACTERIA								BOD5					TSS					WEATHER				
MONTH_____ YEAR_____	TREATED PRIMARY FLOW BYPASSING SECONDARY	SECONDARY BYPASS CLARIFIER SURFACE AREA	BYPASS DURATION	BYPASS CLARIFIER SURFACE LOADING RATE	SECONDARY FLOW TREATED	TRUE CSO BYPASS AROUND PRIMARY	MAX CHLORINE DOSE	CHLORINE RESIDUAL IN PRIMARY EFFLUENT	CHLORINE RESIDUAL IN SECONDARY EFFLUENT	CALCULATED BLENDED EFFLUENT	E.COLI / FECAL IN PRIMARY EFFLUENT	E.COLI / FECAL IN PRIMARY EFFLUENT	E.COLI / FECAL IN PRIMARY EFFLUENT	E.COLI / FECAL IN PRIMARY EFFLUENT	E.COLI / FECAL IN SECONDARY EFFLUENT	CALCULATED BLENDED EFFLUENT	pH	SETTLEABLE SOLIDS IN PRIMARY EFFLUENT	PRIMARY INFLUENT	PRIMARY EFFLUENT	PERCENT REMOVAL	SECONDARY EFFLUENT	CALCULATED BLENDED EFFLUENT	PRIMARY INFLUENT	PRIMARY EFFLUENT	PERCENT REMOVAL	SECONDARY EFFLUENT	CALCULATED BLENDED EFFLUENT	CONDITIONS	TEMPERATURE	PRECIPITATION	STORM DURATION	COMMENTS
	MG	Sf	hrs	Gpd/Sf	MG	MG	mg/L	mg/L	mg/L	mg/L	#/100	#/100	#/100	#/100	#/100			ml/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L		F	In	Hrs	
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28																																
29																																
30																																
31																																
Total																																
Avr																																
Max																																

Number of discharge days _____

ATTACHMENT F

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
CSO ACTIVITY AND VOLUMES

MUNICIPALITY OR DISTRICT	MEPDES / NPDES PERMIT NO.
REPORTING YEAR	SIGNED BY:
YEARLY TOTAL PRECIPITATION INCHES	DATE:

CSO EVENT NO.	START DATE OF STORM	PRECIP. DATA		FLOW DATA (GALLONS PER DAY) OR BLOCK ACTIVITY("1")							
		TOTAL INCHES	MAX. HR. INCHES	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	EVENT OVERFLOW GALLONS	EVENT DURATION HRS
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
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20											
21											
22											
23											
24											
25											
	TOTALS										

Note 1: Flow data should be listed as gallons per day. Storms lasting more than one day should show total flow for each day.

Note 2: Block activity should be shown as a "1" if the block floated away.

ATTACHMENT G

CLEAN WATER STATE REVOLVING FUND

REPAIR AND REPLACEMENT RESERVE ACCOUNT CERTIFICATION

I _____ representing the _____
(print name of cognizant official) *(print name of permittee)*

hereby certify to the Maine Department of Environmental Protection that as of _____
(date)

a *Clean Water State Revolving Fund (CWSRF) Repair and Replacement Reserve Account* has been established and is fully funded in accordance with Department Guidance entitled, *Maine Department of Environmental Protection, Clean Water State Revolving Fund (CWSRF) Guidance for Minimum Requirements for an Asset Management Program and Reserve Account In Order to Qualify for CWSRF Principal Forgiveness*, DEPLW1190-2010; and

That our total yearly wastewater operation and maintenance budget for the previous year was $_____; and

That the amount recommended in our asset management plan, or as a minimum, 2% of our total yearly wastewater operation and maintenance budget was $_____; and

That $_____ was deposited to the Repair and Replacement Reserve Account last year; and

That $_____ was expended from this account last year in accordance with the Department Guidance; and

That the current balance of the Repair and Replacement Reserve Account is $_____.

Signature _____ Date _____

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
WASTE DISCHARGE LICENSE

PROPOSED DRAFT FACT SHEET

DATE: **APRIL 7, 2016**

MEPDES PERMIT: **ME0100072**
WASTE DISCHARGE LICENSE: **W002679-5M-I-R**

NAME AND ADDRESS OF APPLICANT:

CITY OF BREWER
80 NORTH MAIN STREET
BREWER, ME 04412

COUNTY: **PENOBSCOT**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

BREWER WATER POLLUTION CONTROL FACILITY
37 OAK STREET
BREWER, MAINE 04412

RECEIVING WATER / CLASSIFICATION: **PENOBSCOT RIVER/CLASS B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

MR. KENNETH W. LOCKE, SUPERINTENDENT
(207) 989-5417
klocke@brewermaine.gov

1. APPLICATION SUMMARY

a. Application: On February 8, 2016, the Department of Environmental Protection (Department) accepted as complete for processing an application from the City of Brewer (Brewer) for renewal of combination Waste Discharge License (WDL) # W007462-5M-D-R / Maine Pollutant Discharge Elimination System (MEPDES) permit # ME0100072, which was issued by the Department on May 19, 2011 for a five-year term. The May 19, 2011 permit authorized the monthly average discharge of 5.19 million gallons per day (MGD) of secondary treated sanitary wastewater from a publicly owned treatment works (POTW) to the Penobscot River, Class B, in Brewer, Maine.

The 5/19/11 MEPDES permit also authorized the City to discharge an unspecified quantity of primary treated municipal wastewater from a POTW when the influent to the wastewater treatment facility exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD) and authorized the discharge of an unspecified quantity of untreated combined sanitary and storm water from five (5) combined sewer overflow (CSO) outfalls to the Penobscot River, Class B in Brewer, Maine.

2. PERMIT SUMMARY

a. Terms and conditions: **This permitting action is <u>different from</u> the May 19, 2011 permit in that it:**

1. Eliminates the Hardy Street CSO bypass location, and in turn, establishes Special Condition L. "*Pump Station Emergency Bypass*" for this CSO;

<u>For Secondary Treated Wastewater (Outfall #001A)</u>

2. Eliminates Special Condition R, *Waste Water Facility Energy Audit* as a final report was submitted;

3. Eliminates Special Condition P, *Asset Management Program (AMP),* as a final certificate of completion from the permittee was accepted by the Department on June 24, 2012;

4. Eliminates the seasonal, bimonthly effluent total phosphorus reporting condition;

5. Incorporates monitoring and reporting requirements for the interim mercury limitations established by the Department for this facility pursuant to *Certain deposits and discharges prohibited,* 38 M.R.S.A. § 420 and *Waste discharge licenses,* 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001);

6. Reduces the monitoring and reporting requirement for BOD_5 and TSS from 5/Week to 3/Week and settleable solids from 1/Day to 4/Week;

2. PERMIT SUMMARY (cont'd)

a. Terms and conditions:

7. Eliminates numeric limits for total copper and total lead in response to facility testing results;

8. Eliminates surveillance level whole effluent testing (WET) testing in response to facility testing results;

9. Eliminating the monthly average limitation and monitoring requirements for inorganic arsenic and total arsenic based on the results of facility testing;

For Primary Treated Wastewater (Outfall #001B)

10. Eliminates Surface Overflow Rate, BOD_5 and TSS percent removal, settleable solids, and pH monitoring requirements;

11. Eliminates *E.coli* bacteria and TRC limits and establishes reporting requirement;

12. Establishes Minimum Influent Flow Rate monitoring; and

For Blended Wastewater (Outfall #001C)

13. Establishes end-of-pipe limitations and reporting requirements for administrative Outfall #001C to comply with U.S. Environmental Protection Agency (USEPA) CSO Control Policy and Clean Water Act section 402(q)(1).

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

February 28, 1989 - The Department issued WDL #W002679-46-A-R for a five-year term.

February, 1992 - The City of Brewer and the Department entered into an Administrative Consent Agreement and Enforcement Order for violations of parameters in the 2/28/89 WDL. In addition, the Consent Agreement ordered the City to continue to develop and implement a prioritized, long term program for evaluation and abatement of CSO's resulting in the submission of a Master Plan to the Department.

June, 1993 - The City submitted a CSO Master Plan entitled "Sewer System Master Plan for CSO Abatement" to the Department as required in the 2/92 Consent Agreement. The plan was subsequently approved by the Department on April 12, 1995.

2. PERMIT SUMMARY (cont'd)

March 28, 1994 - The City submitted a document entitled, "City of Brewer Waste Water Treatment Facility Septage Management Plan" to the Department and was subsequently approved by the Department.

February 21, 1997 - The City submitted the High Flow Management Plan for the wastewater treatment facility that was subsequently approved by the Department.

April 17, 1998 – The Department issued WDL #W002679-46-B-R for a five-year term.

September 30, 1998 - The USEPA issued a renewal of National Pollutant Discharge Elimination System (NPDES) #ME0100072 for a four and one-half year term.

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 #W002679-46-B-R by establishing interim monthly average and daily maximum effluent concentration limits of 4.5 parts per trillion (ppt) and 6.8 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury.

January 12, 2001 – The Department received authorization from the USEPA to administer the NPDES permit program in Maine. From that date forward, the permit program has been referred to as the MEPDES permit program and ME0100072 (same as the NPDES permit) will be the primary reference number for the facility.

April 25, 2003 – The Department issued combination MEPDES permit #ME0100072/WDL W002679-5M-C-R for a five-year term.

September 10, 2004 – The Department issued an administrative modification to reduce the monitoring frequency for BOD_5 and TSS from 1/Day to 5/Week as a result of the permanent shutdown of the Eastern Fine Paper mill, the largest industrial contributor of wastewater to Brewer's wastewater treatment facility.

April 10, 2006 – The Department issued a modification to incorporate WET and chemical specific testing requirements pursuant to *Surface Water Toxics Control Program* 06-096 CMR, Chapter 530 (effective date March 21, 2012).

June 23, 2008 – The Department issued a minor revision to increase the quantity of septage received at the facility from 25,000 gallons per day (GPD) to 52,000 GPD.

May 19, 2011 – The Department issued MEPDES permit #ME0100072 / WDL #W002679-5M-D-R for a five-year term.

2. PERMIT SUMMARY (cont'd)

January 8, 2013 – The Department initiated a modification of the 5/19/11 permit to reduce the monitoring frequency for mercury to once per year.

January 15, 2014 – The Department issued a permit modification to extend the due date for the updated CSO Master Plan from December 30, 2013, to December 31, 2014.

December 31, 2014 – The Department received the City of Brewer's Updated Sewer System Master Plan for CSO Abatement dated December 2014, review comments were provided on June 29, 2015 and the Master Plan with abatement schedule was approved on November 2, 2015.

February 5, 2016 – The permittee submitted a timely and complete General Application to the Department for renewal of the May 19, 2011 permit (including subsequent minor permit revisions and permit modifications). The application was accepted for processing on February 8, 2016 and was assigned WDL #W002679-5M-I-R / MEPDES #ME0100072.

c. Source Description: The wastewater treatment facility receives sanitary wastewater flows from approximately 10,000 residential, commercial and industrial users in the City of Brewer. Brewer's sewer collection system is approximately 53 miles in length and is approximately 95% separated. The collection system has a total of 14 pump stations. Nine (9) of the pump stations have on-site generators for back-up power while the remaining pump stations have electrical receptacles whereby back-up power is provided by a portable generator. There are four remaining permitted CSOs associated with the collection system and are listed in Special Condition K, *Combined Sewer Overflows (CSO),* of this permitting action. A map showing the location of the facility and the receiving water is included as Fact Sheet **Attachment A.**

The Department has authorized the City to accept up to 3,000,000 gallons per year of landfill leachate from a closed municipal landfill for the City of Brewer and receive and treat up to a daily maximum of 52,000 gallons per day of septage from local septage haulers. Other permitted contributors to Brewer's facility include the local Air National Guard and Bangor International Airport, GAC, Soil Prep, Juniper Ridge Landfill, and LaBree's Bakery.

d. Wastewater Treatment: The wastewater treatment facility is designed to provide a secondary level of treatment for a sustained flow of 5.19 MGD. Secondary treatment for the sanitary portion of wastewaters received at the facility is provided by two aerated grit chambers, three bar racks, two primary clarifiers, selector basins, an activated sludge system with two aeration basins, four secondary clarifiers and disinfection by way of a chlorine contact chamber. Effluent is measured by a Parshall flume prior to being discharged to the

2. PERMIT SUMMARY (cont'd)

Penobscot River via a ductile iron pipe measuring thirty (30) inches in diameter and is considered a bank outfall by the Department. A septage receiving station was installed in 2012 at the Brewer Water Pollution Control Facility. Brewer included the following description with their 2016 renewal application:

> "In 2012 the City installed a septage receiving station at the Water Pollution Control Facility. The septage receiving station includes a 24' × 26' wood framed building with two rooms, an equipment room and an electrical control room. In the equipment room there is a septage acceptance plant (Raptor), a manual cleaning bypass bar rack, a monorail system, electric heater and a HVAC system. In the control room there is a main distribution panel, power panel, Raptor control panel, pump control panel, electrical heater and HVAC. The Raptor is capable to treating 700 gpm of septage wastewater. Under the buiding there is a 8,000 gallon storage tank where the septage is stored until it gets pumped to the gravity thickener."

A 1998 upgrade of the treatment facility increased the preliminary, primary, and disinfection systems at the plant to receive up to a daily maximum flow of 13.0 MGD and a peak hourly flow of 14.5 MGD (12.0 MGD from the municipal collection system plus 2.5 MGD from the industrial stream). The upgrade included the addition of a primary clarifier which allowed one primary clarifier to be dedicated to the industrial waste stream, installation of a grit chamber and grinders on the sanitary waste stream, reconfiguration of the primary distribution box and aeration distribution box, the addition, expansion and reconfiguration of the chlorine contact chamber.

As part of its combined sewer overflow abatement program, the 1998 upgrade of the facility enables the City to treat a portion of the excess combined sewer flows at the wastewater treatment facility. To the extent possible, combined sewer flows receive secondary treatment along with normal dry weather flows. However, in order to prevent damage to the treatment system and/or upsetting the secondary biological process, the volume of water receiving secondary treatment is limited. The force main from the three main pump stations (Hardy St., South Main St., and Brewer Cove) to the treatment plant is capable of delivering 12 MGD to the treatment plant. The maximum combined sewer flow receiving secondary treatment is a peak hourly rate of 9.27 MGD. However, due to seasonal variations and the need to maintain stable treatment for dry weather flows, the amount of combined sewer flow receiving secondary treatment may vary at any given time. Flows received at the treatment facility exceeding a sustained flow rate of 3,604 gallons per minute (5.19 MGD) or peak hourly flow rate of 6,438 gallons per minute of (9.27 MGD) receive primary treatment via grit removal, grinding, measurement and primary clarification. The primary treated portion of the total flow is then combined with secondary treated wastewater and the combined waste stream is disinfected prior to discharge to the Penobscot River. A process flow schematic for the facility is included as Fact Sheet **Attachment B.**

3. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require the application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and Department rule *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective March 21, 2012), require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Classification of major river basins, 38 M.R.S.A. § 467(7)(A)(7) classifies the Penobscot River at the point of discharge (from the Maine Central Railroad bridge in Bangor to a line extended in an east-west direction from a point 1.25 miles upstream of the confluence of Reeds Brook in Hampden) as Class B water. Furthermore, the statute states "…the Legislature finds that the free-flowing habitat of this river segment provides irreplaceable social and economic benefits and that this use must be maintained." *Standards for classification of fresh surface waters*, 38 M.R.S.A. § 465(3) describes the standards for Class B waters.

5. RECEIVING WATER QUALITY CONDITIONS

The following is an excerpt from the *State of Maine 2012 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.

> "In May 2011, MDEP completed the "Penobscot River Phosphorus Wasteload Allocation" (WLA) report which covered the area from Millinocket to Medway (West Branch Penobscot River) and further down to Bangor/Brewer (mainstem Penobscot River). The WLA report identified a total of four industrial dischargers and six significant municipal dischargers that contribute phosphorus to these segments and in combination cause the observed aquatic life impairments. The report established phosphorus limits for the industrial dischargers and MDEP determined that these reduced loadings would be sufficient to eliminate eutrophic conditions along the entire freshwater portion of the river. Between March and May 2011, MDEP issued MEPDES (Maine Pollutant Discharge Elimination System) permits to all ten dischargers identified in the WLA report. It is expected that the phosphorus limits established in the permits to industrial dischargers will result in the elimination of the aquatic life use impairments by 2016. Monitoring data collected in 2011 showed DO attainment in two critical reaches of the river; preliminary analysis of 2012 data covering the majority of the river also indicate attainment of DO criteria."

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

An excerpt from the 2014 Penobscot River Phosphorus Waste Load Allocation Ambient Monitoring Plan Report dated June 2015 by the Department, states:

> "No DO non-attainment was measured in association with the Penobscot River Ambient Monitoring Report (PRAMP) during 2014. All data were well above appropriate classification criteria. There were no measured diurnal DO swings that would suggest excessive nutrient enrichment (i.e., > 2.0 mg/L). The 2014 results provide good reason to be optimistic about continued DO attainment, but continued monitoring is recommended.…"

The Department therefore delisted five Penobscot River segments, including the segment that contains the City of Brewer discharge, ABD Assessment Unit ME0102000513_234R02 (Main Stem (Penobscot), Veazie Dam to Reeds Brook) as "Category 4-B: Rivers and Streams Impaired by Pollutants – Pollution Control Requirements Reasonably Expected to Result in Attainment" for dissolved oxygen and nutrient/eutrophication biological indicators. A comment in the report states that the segment is "Expected to attain in 2016. Preliminary data from 2011 looks promising" for dissolved oxygen and nutrient/eutrophication biological indicators. The report also lists the segment in question in Category 4-B for dioxin (including 2,3,7,8-TCDD) and states "4-B Dioxin license limits in 38 MRSA Section 420. Compliance is measured by (1) no detection of dioxin in any internal waste stream (at 10 pg/L detection limit), (2) no detection in fish tissue sampled below a mill's outfall greater than upstream reference. Expected to attain standards in 2020." This segment is also listed under "Category 5-D: Rivers and Streams Impaired by Legacy Pollutants" for polychlorinated biphenyls (PCBs).

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

Maine has already instituted statewide programs for removal and reduction of mercury sources. Pursuant to 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 and reporting requirements for this facility pursuant to 06-096 CMR 519.

The Department has no information that the discharge from the permittee, as conditioned, causes or contributes to non-attainment of applicable Class B water quality standards.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Brewer has developed and implemented a CSO Master Plan for the elimination of all CSO points associated with the Brewer POTW. The Department acknowledges that elimination of all CSO points is a costly and long-term project. As Brewer's treatment plant and sewer collection system are upgraded and maintained in according to the CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO and primary treatment activities and, over time, improvement in the quality of the wastewater discharged to the receiving waters. Compliance with the limitations established in the permit ensure that the discharge of treated wastewater will not cause or contribute to exceedance of water quality standards.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previously established monthly average discharge flow limitation of 5.19 MGD, which is based on the dry weather design criterion for the facility, is being carried forward in this permitting action.

The Department reviewed 52 discharge monitoring reports (DMR) that were submitted for the period of June 1, 2011 through December 1, 2015. A review of data indicates the following:

Flow (DMRs=52)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	5.19	0.99 – 3.41	1.8
Daily Maximum	Report	1.12 – 5.86	3.6

b. Dilution Factors: The Department established applicable dilution factors for the discharge in accordance with freshwater protocols established in *Surface Water Toxics Control Program,* 06-096 CMR 530 (last amended March 21, 2012). With a monthly average flow limit of 5.19 MGD), dilution factors for the facility are as follows:

Modified Acute = 731 cfs = $\frac{(731\ \text{cfs})(0.6464) + (5.19\ \text{MGD})}{(5.19\ \text{MGD})} = 92{:}1$

Acute: 1Q10 = 2,925 cfs = $\frac{(2{,}925\ \text{cfs})(0.6464) + (5.19\ \text{MGD})}{(5.19\ \text{MGD})} = 365{:}1$

Chronic: 7Q10 =3,243 cfs = $\frac{(3{,}243\ \text{cfs})(0.6464) + (5.19\text{MGD})}{(5.19\ \text{MGD})} = 405{:}1$

Harmonic Mean: = 9,101 cfs = $\frac{(9{,}101\ \text{cfs})(0.6464) + (5.19\ \text{MGD})}{(5.19\ \text{MGD})} = 1{,}134{:}1$

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

06-096 CMR 530(4)(B)(1) states that analyses using numeric acute criteria for aquatic life must be based on ¼ of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The regulation goes on to say that 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, up to including all of it.

The Department has made the determination the discharge does not receive rapid and complete mixing with the receiving water, therefore the default stream flow of ¼ of the 1Q10 is applicable in acute statistical evaluations.

c. BOD_5 and TSS: Previous permitting action established, and this permitting action is carrying forward, monthly average and weekly average BOD_5 and TSS concentration limits of 30 mg/L and 45 mg/L, respectively, which were based on secondary treatment requirements pursuant to 40 CFR 133.102 and 06-096 CMR 525(3)(III). Previous permitting action also established, and this permitting action is carrying forward, daily maximum BOD_5 and TSS concentration limits of 50 mg/L based on a Department best professional judgement (BPJ) of BPT for secondary treated wastewater. All three concentration limitations are being carried forward in this permitting action.

The previous permitting action established monthly average and weekly average mass limits based on a monthly average limit of 5.19 MGD, which are being carried forward in this permitting action. No daily maximum mass limitations (report only) for BOD_5 or TSS were established in previous permitting action as doing so may discourage Brewer from treating as much wastewater as possible through the secondary treatment system during wet weather events.

Mass limitations were derived as follows:

Monthly Average	(30 mg/L)(8.34 lbs./gallon)(5.19 MGD) =	1,298 lbs./day
Weekly Average	(45 mg/L)(8.34 lbs./gallon)(5.19 MGD) =	1,947 lbs./day

This permitting action is also carrying forward the requirement for a minimum of 85% removal of BOD_5 & TSS pursuant to 06-096 CMR 525(3)(III)(a)(3) and (b)(3).

A summary of BOD_5 data as reported on the DMRs submitted to the Department for the period of June 1, 2011 – December 1, 2015 is as follows:

BOD_5 Mass

Value	Limit (lbs./day)	Range (lbs./day)	Average (lbs./day)
Monthly Average	1,298	21 – 228	82
Weekly Average	1,947	23 – 427	130
Daily Maximum	Report	35 – 715	249

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

BOD_5 Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	2 – 12	5
Weekly Average	45	3 – 19	7
Daily Maximum	50	4 – 40	10

A summary of TSS data as reported on the DMRs submitted to the Department for the period of June 1, 2011 – December 1, 2015 is as follows:

TSS Mass

Value	Limit (lbs./day)	Range (lbs./day)	Average (lbs./day)
Monthly Average	1,298	17 – 323	62
Weekly Average	1,947	21 – 670	109
Daily Maximum	Report	33 – 1,050	230

TSS Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	2 – 15	4
Weekly Average	45	2 – 24	5
Daily Maximum	50	3 – 33	9

Minimum monitoring frequency requirements in MEPDES permits are prescribed by 06-096 CMR Chapter 523§5(i). The USEPA has published guidance entitled, *Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies* (USEPA Guidance April 1996). In addition, the Department has supplemented the USEPA guidance with its own guidance entitled, *Performance Based Reduction of Monitoring Frequencies - Modification of EPA Guidance Released April 1996* (Maine DEP May 22, 2014). Both documents are being utilized to evaluate the compliance history for each parameter regulated by the previous permit to determine if a reduction in the monitoring frequencies is justified.

Although USEPA's 1996 Guidance recommends evaluation of the most current two years of effluent data for a parameter, the Department is considering 51 months of data (June 1, 2011 – September 30, 2015). A review of the mass monitoring data for BOD_5 & TSS indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as 6% for BOD_5 and 5% for TSS. According to Table I of the USEPA Guidance and Department Guidance, the monitoring requirement can be reduced to 1/Week for BOD_5 and TSS. However, taking into consideration both the USEPA and Department Guidance, this permitting action is reducing the monitoring frequency for BOD_5 and TSS from 5/Week to 3/Week.

d. Settleable Solids: The previous permitting action established a daily maximum concentration limit of 0.3 milliliters per liter (mL/L) for settleable solids and is considered by the Department as a best professional judgement of BPT for secondary treated

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

wastewater. A review of the DMR data for the period of June 1, 2011 through September 31, 2015 (n = 52) indicates the daily maximum settleable solids concentration value reported was 0.10 mL/L. Due to the consistent nature of the results, this permitting action is reducing the monitoring frequency from 1/Day to 4/Week.

e. *Escherichia coli* bacteria: The previous permitting action established, and this permitting action is carrying forward, seasonal monthly average and daily maximum *Escherichia coli* bacteria limitations of 64 colonies/100 ml (geometric mean) and 427 colonies/100 ml (instantaneous), respectively, that are in effect between May 15 and September 30, inclusive, of each year.

During calendar year 2005, Maine's Legislature approved a new daily maximum water quality standard of 236 colonies/100 ml for Class B and Class C waters. The Department has determined that end-of-pipe limitations for the instantaneous concentration standard of 427 colonies/100 mL will be achieved through available dilution of the effluent with the receiving waters and need not be revised in MEPDES permits for facilities with adequate dilution (at least 1.1:1 for facilities in Class B waters).

A review of the bacterial testing data as reported on the monthly DMRs for the period of June 30, 2011 – September 30, 2015 indicates the permittee to have been in compliance with the permit limits 100% of the time. A statistical summary of the reported *E. coli* bacteria test results is as follows:

***E. coli* Bacteria (DMRs=24)**

Value	Limit (col/100 ml)	Range (col/100 ml)	Mean (col/100 ml)
Monthly Average	64	1 – 17	5
Daily Maximum	427	2 – 291	93

For blended effluent, this permitting action is establishing a daily maximum *E. coli* limit of 427 colonies/100 ml (instantaneous), effective between May 15 and September 30 to comply with USEPA's CSO Control Policy and Clean Water Act section 402(q)(1).

f. Total Residual Chlorine (TRC): The previous permitting action established a daily maximum BPT-based concentration limit of 1.0 mg/L as well as a minimum monitoring frequency requirement of 1/Day year round. The Department specifies TRC limitations in order to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of either water quality-based or BPT-based limits. End-of-pipe acute and chronic water quality-based concentration thresholds may be calculated as follows:

Criterion		Dilution Factors	Calculated Threshold
Mod. Acute	0.019 mg/L	92:1	1.7 mg/L
Chronic	0.011 mg/L	405:1	4.5 mg/L

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

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. This permitting action is carrying forward the 1/Day monitoring requirement as well as the daily maximum BPT-based concentration limit of 1.0 mg/L as it is more stringent than the water quality-based thresholds of 1.7 mg/L (modified acute) and 4.5 mg/L (chronic) as calculated above. Although bacteria limitations are seasonal and apply between May 15 and September 30 of each year, the facility must monitor and report TRC during any period that chlorine-based compounds are in use at the facility because chlorine compounds are toxic at all times of the year.

A summary of TRC data as reported on the monthly DMRs for the period of June 30, 2011 – October 31, 2015 is as follows:

Total residual chlorine (DMRs=6)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	1.0	0.4 – 1.0	0.7

For blended effluent, this permitting action is establishing a TRC daily maximum limit of 1.0 mg/L to comply with USEPA's CSO Control Policy and Clean Water Act section 402(q)(1).

g. pH: The previous permitting action established a technology based pH range limitation of 6.0 – 9.0 standard units pursuant to 06-096 CMR 525(3)(III)(c) along with a monitoring frequency of 1/Day, both of which are being carried forward in this permitting action. A review of the DMR data for the period of June 1, 2011 through September 31, 2015 (n = 52) indicates the pH values ranged from 6.5 to 7.8 standard units.

Whole Effluent Toxicity, Priority Pollutant, and Analytical Chemistry Testing

38 M.R.S.A. § 414-A and 38 M.R.S.A. § 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. 06-096 CMR 530 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. 06-096 CMR 584 sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing, as required by 06-096 CMR 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 the water flea *(Ceriodaphnia dubia)* and the brook trout *(Salvelinus*

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

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 under "Priority Pollutants" on the form included as **Attachment D** of the permit. Analytical chemistry refers to those pollutants listed under "Analytical Chemistry" on the form included as **Attachment D** of the permit.

06-096 CMR 530(2)(A) specifies the dischargers subject to the rule as:

> All licensed dischargers of industrial process wastewater or domestic wastes discharging to surface waters of the State must meet the testing requirements of this section. Dischargers of other types of wastewater are subject to this subsection when and if the Department determines that toxicity of effluents may have reasonable potential to cause or contribute to exceedences of narrative or numerical water quality criteria.

Brewer discharges domestic (sanitary) and industrial process wastewater to surface waters and is therefore subject to the testing requirements of the toxics rule.

06-096 CMR 530(2)(B) categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV).

The four categories for dischargers are as follows:

Level I	Chronic dilution factor of <20:1
Level II	Chronic dilution factor of ≥20:1 but <100:1.
Level III	Chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD
Level IV	Chronic dilution factor >500:1 and Q ≤1.0 MGD

Based on the criteria, the permittee's facility is considered a Level III discharger as the chronic dilution of the receiving water is 405:1 and the permitted flow is greater than or equal to 1.0 MGD. 06-096 CMR 530(2)(D) specifies default WET, priority pollutant, and analytical chemistry test schedules for Level III dischargers as follows.

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	None required	1 per year

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

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	1 per year	4 per year

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.

h. Whole Effluent Toxicity: 06-096 CMR 530(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 February 24, 2016, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department for the Brewer POTW in accordance with the statistical approach outlined above. The 2/24/16 statistical evaluation indicates the discharge from Brewer has not exceeded or demonstrated a reasonable potential to exceed the critical acute or chronic ambient water quality thresholds for the water flea *(Ceriodaphnia dubia)* or brook trout *(Salvelinus fontinalis)*. See **Attachment D** of this Fact Sheet for a summary of the WET test results.

06-096 CMR 530(2)(D)(3)(b) states, "Dischargers in Levels III and IV may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedences….." Based on the provisions of 06-096 CMR 530 and Department best professional judgment, this permitting action is waiving surveillance level WET testing requirements for this facility. Special Condition L. *06-096 CMR 530(2)(D)(4) Statement For Reduced/Waived Toxics Testing* of this Permit explains the statement required by the discharger to waive WET testing.

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

i. Analytical Chemistry & Priority Pollutant Testing Evaluation:

06-096 CMR 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.

06-096 CMR 530(3)(E) states, "Where it is determined through [the statistical approach referred to in USEPA's Technical Support Document for Water Quality-Based Toxics Control] 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."

06-096 CMR 530(3)(D) states, "Where the need for effluent limits has been determined, limits derived from acute water quality criteria must be expressed as daily maximum values. Limits derived from chronic or human health criteria must be expressed as monthly average values."

On January 5, 2016, the Department conducted a statistical evaluation of the most recent 60 months of chemical-specific test results on file with the Department. The evaluation indicates that the discharge does not exceed or demonstrate a reasonable potential to exceed the critical AWQC for any pollutants. Therefore, this permitting action is eliminating the effluent limitations and monitoring requirements for copper and lead established in the previous permitting action. See **Attachment E** of this Fact Sheet for test dates and results for the pollutants of concern.

Based on the provisions of 06-096 CMR 530 and Department best professional judgment, this permitting action is waiving surveillance level analytical chemistry testing requirements for this facility.

j. Mercury: Pursuant to 38 M.R.S.A. § 420 and 38 M.R.S.A. § 413 and 06-096 CMR 519, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W007462-5L-B-R by establishing interim

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

monthly average and daily maximum effluent concentration limits of 4.5 ppt and 6.8 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury.

38 M.R.S.A. § 420(1-B)(B)(1) provides that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department. A review of the Department's database for the period January 2009 through December 2015 is as follows.

Mercury (n = 16)

Value	Limit (ng/L)	Range (ng/L)	Mean (ng/L)
Monthly Average	4.5	0.7 – 2.4	1
Daily Maximum	6.8		

On February 6, 2012, the Department issued a minor revision to the April 25, 2011 permit thereby revising the minimum monitoring frequency requirement from four times per year to once per year pursuant to 38 M.R.S.A. § 420(1-B)(F). This minimum monitoring frequency is being carried forward in this permitting action.

k. Total Phosphorus: The previous permitting action established a seasonal (June-September) 2/Month monitoring and reporting condition for total phosphorus. Brewer was required to report both monthly average and daily maximum mass and concentration values. A review of the data for the period of June 2011 through September 2015 is as follows:

Phosphorus Mass

Value	Limit (lbs./day)	Range (lbs./day)	Average (lbs./day)
Monthly Average	Report	5 – 48	24
Daily Maximum	Report	6 – 58	30

Phosphorus Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	Report	0.5 – 3.5	2
Daily Maximum	Report	0.6 – 3.8	2

Waste Discharge License Conditions, 06-096 CMR 523 specifies that water quality based limits are necessary when it has been determined that a discharge has a reasonable potential to cause or contribute to an excursion above any State water quality standard including State narrative criteria.[1] In addition, 06-096 CMR 523 specifies that water quality based limits may be based upon criterion derived from a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: USEPA's Water Quality Standards

[1] *Waste Discharge License Conditions,* 06-096 CMR 523(5)(d)(1)(i) (effective date January 12, 2001)

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

Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current USEPA criteria documents.[2] USEPA's Quality Criteria for Water 1986 (Gold Book) puts forth an in-stream phosphorus concentration goal of less than 0.100 mg/L in streams or other flowing waters not discharging directly to lakes or impoundments, to prevent nuisance algal growth. The use of the 0.100 mg/L Gold Book value is consistent with the requirements of 06-096 CMR 523 noted above for use in a reasonable potential (RP) calculation.

Based on the above rationale, the Department has chosen to utilize the Gold Book value of 0.100 mg/L. It is the Department's intent to continue to make determinations of actual attainment or impairment based upon environmental response indicators from specific water bodies. The use of the Gold Book value of 0.100 mg/L for use in the RP calculation will enable the Department to establish water quality based limits in a manner that is reasonable and that appropriately establishes the potential for impairment, while providing an opportunity to acquire environmental response indicator data, numeric nutrient indicator data, and facility data as needed to refine the establishment of site specific water quality based limits for phosphorus. This permit may be reopened during the term of the permit to modify any reasonable potential calculations, phosphorus limits, or monitoring requirements based on new site-specific data.

In 2007 a WLA study was conducted on the Penobscot River in the vicinity of the discharge. Ambient phosphorus levels ranged from 15.7 parts per billion (ppb) to 19.3 ppb. Therefore, for this calculation, we will be using the mean of the ambient data, 16.6 ppb (rounded to 17.0 ppb).

To characterize the effluent, the permittee conducted effluent total phosphorus testing during the summer from 2011 through 2015. Based upon the this data, the arithmetic mean effluent concentration was 2.1 mg/L (2,100 micrograms per liter (µg/L)) and is considered representative of the discharge from the facility.

Using the following calculation and criteria, Brewer does not have a reasonable potential to exceed the USEPA's Total P Ambient Water Quality Gold Book goal of 0.100 mg/L (100 µg/L) or the Department's draft ambient water quality criteria of 0.030 mg/L for phosphorus in rivers and streams not feeding lakes. However, due to the proximity of the City of Bangor POTW discharge, the Department has analyzed the combined discharges of phosphorus in the following reasonable potential calculation.

[2] 06-096 CMR 523(5)(d)(1)(vi)(A)

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

Reasonable Potential Analysis

$$Cr = \frac{QeCe + QsCs}{Qr}$$

Qe = combined effluent flow	=	23.19 MGD
Ce = weighted average effluent pollutant concentration	=	6 mg/L
Qs = 7Q10 flow of receiving water (Bangor)	=	2,072 MGD
Cs = upstream concentration	=	0.017 mg/L
Qr = receiving water flow (2,072 MGD + 23.19 MGD)	=	2,095.19 MGD
Cr = receiving water concentration		

$$Cr = \frac{(23.19 \text{ MGD} \times 6 \text{ mg/L}) + (2{,}072 \text{ MGD} \times 0.017 \text{ mg/L})}{2{,}095.19 \text{ MGD}} = 0.08 \text{ mg/L}$$

Cr = 0.08 mg/L < 0.100 (EPA Gold Book) mg/L⇒ **No Reasonable Potential**
Cr = 0.08 mg/L >0.030 (Maine Draft Criteria) mg/L ⇒ **Has Reasonable Potential**

According to Department guidance, if there is reasonable potential at the Draft Criteria Rule, a discharger must conduct effluent monitoring for five years, as well as ambient monitoring for one year. The Department is also directed to conduct environmental indicator monitoring. However, taking into consideration the ongoing WLA monitoring effort by the Department as well as the permittee (in the permit under Special Condition *N. Ambient Water Quality Monitoring*), and the previously completed effluent characterization by the permittee, this permit is not requiring the discharger to perform effluent monitoring. No end-of-pipe limitations or monitoring requirements for total phosphorous are being established in this permit.

l. Transported Wastes: The previous permitting action authorized the permittee to receive and introduce up to 52,000 gpd of transported wastes into the wastewater treatment process or solids handling stream. *Standards For The Addition of Transported Wastes to Wastewater Treatment Facilities*, CMR 555 (last amended March 9, 2009), limits the quantity of transported wastes received at a facility to 1% of the design capacity of the treatment facility if the facility utilizes a side stream or storage method of introduction into the influent flow, or 0.5% of the design capacity of the facility if the facility does not utilize the side stream or storage method of introduction into the influent flow. In their application for permit renewal, Brewer requested the Department carry forward the daily quantity of septage it is authorized to receive and treat. With a design capacity of 5.19 MGD, 52,000 gpd represents 1.0% of said capacity.

The Department has determined that under normal operating conditions, the receipt and treatment of 52,000 gpd of transported wastes to the facility will not cause or contribute to upset conditions of the treatment process.

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

m. CSO-Related Bypass of Secondary Treatment (Outfall #001B-Primary Treated Wastewater): For those flows received at the treatment facility which are greater than that which can be treated to a secondary level of treatment, the Department has made a BPJ that primary treatment and disinfection constitutes appropriate and BPT.

The reporting requirements for the parameters in Special Condition A(2) of this permit (Flow, Overflow Occurrences, *E. coli*, TRC, are being carried forward in this permitting action. These are parameters the Department has deemed necessary to evaluate the performance of the primary treatment process. It is noted this permitting action is not carrying forward the numeric limitations for *E.coli* and TRC based on the Department's revised judgement on regulating internal waste streams. Surface Loading Rate, BOD_5 and TSS percent removal are not included in this permit based on best professional judgment that these technology-based metrics have not been particularly useful in assessing primary treatment system performance and are not necessary to ensure water quality standards are met.

A review of the DMR data for the period June 2011 – October 2015 indicates there have been a total of twenty eight (28) overflow occurrences with values reported as follows:

Overflow occurrences

Year	Limit (# of days)	Total (# of days)
2011	Report	5
2012	Report	10
2013	Report	4
2014	Report	8
2015	Report	1

Flow - Total Gallons/Month

Year	Limit (MGD)	Range (MGD)	Total (MGD)
2011	Report	1.587 - 2.824	4.411
2012	Report	0.480 - 5.083	12.771
2013	Report	0.450 – 3.177	5.727
2014	Report	0.907 – 3.786	13.503
2015	Report	1 event	2.356

Flow – Daily Maximum Gallons

Year	Limit (MGD)	Range (MGD)	Total (MGD)
2011	Report	1.001 - 1.818	2.819
2012	Report	0.480 – 2.224	9.912
2013	Report	0.450 – 2.141	4.691
2014	Report	0.907 – 3.245	10.926
2015	Report	1 event	2.356

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

The permittee maintains a combined sewer system from which wet weather overflows occur. Section 402(q)(1) of the Clean Water Act requires that "each permit, order or decree issued pursuant to this chapter after December 21, 2000 for a discharge from a municipal combined storm and sanitary sewer must conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994 ….." 33 U.S.C. § 1342(q)(1). The Combined Sewer Overflow Control Policy (CSO Policy, 59 Fed. Reg. 18688-98), states that under USEPA's regulations the intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is a bypass and that 40 CFR 122.41(m), allows for a facility to bypass some or all the flow from its treatment process under specified limited circumstances. Under the regulation, the permittee must show that the bypass was unavoidable to prevent loss of life, personal injury or severe property damage, that there was no feasible alternative to the bypass and that the permittee submitted the required notices. The CSO Policy also provides that, for some CSO-related permits, the study of feasible alternatives in the control plan may provide sufficient support for the permit record and for approval of a CSO-related bypass to be included in an NPDES permit.[3] Such approvals will be re-evaluated upon the reissuance of the permit, or when new information becomes available that would represent cause for modifying the permit.

The CSO Policy indicates that the feasible alternative threshold may be met if, among other things, "… the record shows the secondary treatment system is properly operated and maintained, that the system has been designed to meet secondary limits for flows greater than peak dry weather flow, plus an appropriate quantity of wet weather flow, and that it is either technically or financially infeasible to provide secondary treatment at the existing facilities for greater amounts of wet weather flow."[4]

USEPA's CSO Control Policy and CWA section 402(q)(1) provide that the CSO-related bypass provision in the permit should make it clear that all wet weather flows passing through the headworks of the POTW will receive at least primary clarification and solids and floatables removal and disposal, and disinfection, where necessary, and any other treatment that can reasonably be provided.[5] Under section 402(q)(1) of the CWA and as stated in the CSO Policy, in any case, the discharge must not violate applicable water quality standards.[6] The Department will evaluate and establish on a case-by-case basis effluent limitations for discharges that receive only a primary level of clarification prior to discharge and those bypasses that are blended with secondary treated effluent prior to discharge to ensure applicable water quality standards will be met.

This permitting action allows a CSO-related bypass of secondary treatment at the Brewer facility based on an evaluation of feasible alternatives, which indicates it is technically and

[3] 59 Fed. Reg. 18,688, at 18,693 and 40 CFR Part 122.41(m)(4) (April 19, 1994).
[4] 59 Fed. Reg. at 18,694.
[5] 59 Fed. Reg. at 18,693.
[6] 59 Fed. Reg. at 18694, col 1 (April 19, 1994).

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

financially infeasible at this time to provide secondary treatment at the existing facilities as summarized in the original CSO Master Plan.

During wet weather events when flows to the treatment facility have exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gallons per minute (9.27 MGD), secondary treatment of all wet weather flows is not practicable. Therefore, a portion of the primary effluent can be bypassed around the aeration basins and secondary clarifiers. The bypassed flow is recombined with the secondary clarifier effluent prior to chlorination and dechlorination and then discharged to the river via Outfall #001C (administrative outfall). This permitting action is establishing end-of-pipe limitations to comply with USEPA's CSO Control Policy and Clean Water Act section 402(q)(1).

The CSO Control Policy does not define specific design criteria or performance criteria for primary clarification. The Department and USEPA agree that existing primary treatment infrastructure was constructed to provide primary clarification, and that for facilities that blend primary and secondary effluent prior to discharge, such as the permittee's facility, compliance must be evaluated at the point of discharge, unless impractical or infeasible.[7] Monitoring to assess compliance with limits based on secondary treatment and other applicable limits is to be conducted following recombination of flows at the point of discharge or, where not feasible, by mathematically combining analytical results for the two waste streams. Where a CSO-related bypass is directly discharged after primary settling and chlorination, monitoring will be at end of pipe if possible.

Due to the variability of CSO-related bypass treatment systems and wet weather related influent quality and quantity, a single technology-based standard cannot be developed for all of Maine's CSO-related bypass facilities.[8] To standardize how the Department will regulate these facilities to ensure compliance with the CSO Control Policy and CWA [9], the Department has determined that limitations for blended effluent (the discharge of CSO-related bypass effluent combined with effluent from the secondary treatment system) should be based on the more stringent of either the past demonstrated performance of the properly operated and maintained treatment system(s), site-specific water quality-based limits derived from calculations, or best professional judgment of Department water quality engineers of assimilative capacity of the receiving water.

The federal secondary treatment regulation does not contain daily maximum effluent limitations for BOD_5 and TSS. The Department established a daily maximum concentration limit of 50 mg/L for secondary treated wastewater as BPJ of BPT prior to NPDES delegation and promulgation of secondary treatment regulations into State rule that are consistent with the Clean Water Act. Following consultation with USEPA, the Department

[7] 40 CFR 122.45(h).
[8] Maine currently has 16 permitted facilities with a CSO-related bypass.
[9] In other words, that any other treatment that can reasonably be provided is, in fact, provided.

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

has chosen to waive the requirement to comply with numeric daily maximum concentration limitations for BOD_5 and TSS for days with CSO-related bypass events.

During CSO-related bypasses, secondary treated wastewater is combined with wastewater from the primary treatment system, which is designed to provide primary clarification and solids and floatables removal and disposal, and disinfection. The permittee is not able to consistently achieve compliance with technology based effluent limits (TBELs) derived from the secondary treatment regulation during CSO-related bypasses. As part of its consideration of possible adverse effects resulting from the bypass, the Department must ensure that the bypass will not cause exceedance of water quality standards. CSO Control Policy at 59 Fed. Reg. 18694.

Analysis of Water Quality Impacts During Discharge of Blended Effluent
Due to the close proximity of the City of Bangor POTW discharge to the Brewer discharge, and in consideration of the fact that the City of Bangor has a licensed flow rate that is three times that of Brewer's, the Department chose to evaluate water quality impacts based on the simultaneous influence of both discharges to the Penobscot River.

However, since the dischargers did not have comparatively elevated results on the same days, the Department identified the highest value for both BOD and TSS for Bangor and Brewer, individually, and then combined those results in the following calculations. In this way, we can evaluate the "worst case" for each discharger for both BOD and TSS in the last five years, and calculate a simulated combined discharge to assess the water quality impact in the Penobscot River.

In previous MEPDES permits, to calculate the change in water quality conditions due to a blended effluent addition, the lowest flow in the receiving waterbody that was recorded by the nearest USGS gauge for that month was applied. However, due to federal sequestration cuts, the USGS gauge in the vicinity of the Bangor/Brewer area is no longer monitoring flow rates. The closest gauge on the mainstem Penobscot with flow data is West Enfield, more than 30 miles north of the discharges. Therefore, the Department used data from the West Enfield gauge in the following calculations.

The calculations for BOD and TSS are as follows:

<u>BOD</u>
Bangor
1/31/14 Daily Maximum blended effluent Outfall 001C = 8,446 lbs./day

Parameters for 1/31/14 are as follows:
1/31/14 Daily Maximum flow for Outfall 001A (Secondary) = 31 MGD
1/31/14 Daily Maximum flow for Outfall 001B (Primary) = 4.959 MGD
1/31/14 Daily Maximum facility flow = 35.959 MGD
1/31/14 Daily Maximum concentration of blended effluent = 28 mg/L

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

Brewer
11/30/13 Daily Maximum concentration for Outfall 001A (Secondary) = 15 mg/L
11/30/13 Daily Maximum concentration for Outfall 001B (Primary) = 96 mg/L

11/30/13 Daily Maximum flow for Outfall 001A (Secondary) = 4.812 MGD
11/30/13 Daily Maximum flow for Outfall 001B (Primary) = 2.10 MGD
11/30/13 Daily Maximum facility flow = 6.912 MGD

Weighted average concentration of Primary and Secondary (blended effluent) = 40 mg/L

Combined BOD (Bangor & Brewer)
The weighted average BOD concentration of the combined discharges = **30 mg/L**

From the months of January 2014 and November 2013, the lowest river flow was 4,460 cfs on November 26, 2013.

Dilution based on 4,460 cfs (or 2,883 MGD) to be applied to the discharge is:

$$\frac{2{,}883 \text{ MGD} + 42.871 \text{ MGD}}{42.871 \text{ MGD}} = 68{:}1$$

Therefore, the increase of instream BOD concentration given these conditions is:

$$\frac{30}{68} = \textbf{0.5 mg/L}$$ (< 2 mg/L is not measurable)

TSS
Bangor
4/30/12 Daily Maximum blended effluent Outfall 001C = 13,562 lbs./day

Parameters for 4/30/12 are as follows:
4/30/12 Daily Maximum flow for Outfall 001A (Secondary) = 30.37 MGD
4/30/12 Daily Maximum flow for Outfall 001B (Primary) = 6.06 MGD
4/30/12 Daily Maximum facility flow = 36.43 MGD
4/30/12 Daily Maximum concentration of blended effluent = 44 mg/L

Brewer
12/31/11 Daily Maximum concentration for Outfall 001A (Secondary) = 12 mg/L
12/31/11 Daily Maximum concentration for Outfall 001B (Primary) = 227 mg/L

12/31/11 Daily Maximum flow for Outfall 001A (Secondary) = 4.673 MGD
12/31/11 Daily Maximum flow for Outfall 001B (Primary) = 1.818 MGD
12/31/11 Daily Maximum facility flow = 6.491 MGD

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

Weighted average concentration of Primary and Secondary (blended effluent) = 72 mg/L

Combined TSS (Bangor & Brewer)
The weighted average TSS concentration of the combined discharges = **48 mg/L**

From the months of April 2012 and December 2011, the lowest river flow was 7,180 cfs on April 19, 2012.

Dilution based on 7,180 cfs (or 4,641 MGD) to be applied to the discharge is:

$$\frac{4{,}641 \text{ MGD} + 42.921 \text{ MGD}}{42.921 \text{ MGD}} = 109:1$$

Therefore, the increase of instream TSS concentration given these conditions is:

$$\frac{48}{109} = \textbf{0.4 mg/L}$$ (< 2 mg/L is not measurable)

Based on the previous calculations from both dischargers, there is no measurable impact in the receiving water due to the addition of increased levels of BOD and TSS from blended effluent during a wet weather event.

Establishing Blended Effluent Limits for Brewer

BOD
If we assume, during a wet weather event, that the facility is discharging secondary-treated water at full permitted flow (5.19 MGD), and in compliance with the daily maximum TBEL-derived discharge limit (50 mg/L), then the maximum effluent value is:

5.19 MGD x 50 mg/L x 8.34 (conversion factor) = 2,164 lbs./day

If we use the highest BOD value taken from primary-treated water in the previous five years, and the flow from that event/day, the primary effluent value is:

2.10 MGD x 96 mg/L x 8.34 = 1,681 lbs./day

The combined mass from the secondary and primary is **3,845** lbs./day. The combined flow for primary and secondary was 7.29 MGD.

The weighted average concentration of primary effluent at its highest values (in five years) and secondary effluent at full permitted flow = **63 mg/L**

In the absence of a practical and reasonable standard, the Department chose to evaluate the Brewer discharge at its proposed limits under chronic river flow conditions. Although a

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

discharge of blended effluent during 7Q10 conditions is not likely to occur, using these extremely conservative conditions demonstrates compliance, and provides assurance that the discharge of blended effluent at proposed limits will not cause or contribute to a violation of water quality standards. The chronic dilution factor for the Penobscot River at Brewer is 3,243 cfs or 2,096 MGD. Therefore the dilution to be applied to the discharges is:

$$\frac{2{,}096 \text{ MGD} + 7.29 \text{ MGD}}{7.29 \text{ MGD}} = 289{:}1$$

Therefore, the increase of instream BOD concentration given this condition is:

$$\frac{63}{289} = \textbf{0.2 mg/L}$$ (< 2 mg/L is not measurable)

TSS

If we follow the same methodology for TSS as BOD, the following maximum effluent values apply:

5.19 MGD x 50 mg/L x 8.34 (conversion factor) = 2,164 lbs./day (secondary treatment)

If we use the highest TSS value taken from primary-treated water in the previous five years, and the flow from that event/day, the primary effluent value is:

1.818 MGD x 227 mg/L x 8.34 = 3,442 lbs./day

The combined mass from the secondary and primary was **5,606** lbs./day.

The weighted average concentration of Primary effluent at its highest values (in five years) and Secondary effluent at full permitted flow = **96 mg/L**

The chronic dilution factor for the Penobscot River at Brewer is 3,243 cfs or 2,096 MGD. Therefore the dilution to be applied to the discharges is:

$$\frac{2{,}096 \text{ MGD} + 7.008 \text{ MGD}}{7.008 \text{ MGD}} = 300{:}1$$

Therefore, the increase of instream TSS concentration given this condition is:

$$\frac{96}{300} = \textbf{0.3 mg/L}$$ (< 2 mg/L is not measurable)

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

Simulated Discharge of Blended Effluent from Bangor and Brewer at Calculated Limits

The combined discharge of blended effluent from Bangor and Brewer at permitted limits is calculated as such:

BOD

Bangor BOD limit = 48 mg/L @ 22.959 MGD
Brewer BOD limit = 63 mg/L @ 7.29 MGD

The weighted average of the combined effluents = 52 mg/L @ 29.967 MGD

The chronic dilution factor for the Penobscot River at Brewer is 3,243 cfs or 2,096 MGD (furthest downstream).

Therefore the dilution to be applied to the discharges is:

$$\frac{2{,}096 \text{ MGD} + 29.967 \text{ MGD}}{29.967 \text{ MGD}} = 71{:}1$$

Therefore, the increase of instream BOD concentration given this condition is:

$$\frac{52}{71} = \textbf{0.7 mg/L}$$ (< 2 mg/L is not measurable)

TSS

Bangor TSS limit = 67 mg/L @ 24.06 MGD
Brewer TSS limit = 96 mg/L @ 7.008 MGD

The weighted average of the combined effluents = 74 mg/L @ 31.068 MGD

The chronic dilution factor for the Penobscot River at Brewer is 3,243 cfs or 2,096 MGD. Therefore the dilution to be applied to the discharges is:

$$\frac{2{,}096 \text{ MGD} + 31.068 \text{ MGD}}{31.068 \text{ MGD}} = 68{:}1$$

Therefore, the increase of instream TSS concentration given this condition is:

$$\frac{74}{68} = \textbf{1 mg/L}$$ (< 2 mg/L is not measurable)

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

Based on the combined BOD_5 and TSS values (blended effluent) cited, the Department has made a best professional judgment, that maximum effluent discharge limitations of 3,846 lbs./day for BOD_5 and 5,606 lbs./day for TSS established in this permit provides reasonable assurance that the discharge will not cause or contribute to a violation of an applicable water quality standard in the Penobscot River and complies with the State's antidegradation policy at 38 M.R.S.A. § 464(4)(F).

These limitations are based on new information concerning treatment system performance data as well as a revised and corrected methodology for regulating CSO-related bypasses in Maine. As such, the Department concludes that the new daily maximum effluent limitations listed above for BOD_5 and TSS for the discharge of primary and secondary blended effluents when the flow rate through secondary treatment has exceeded a sustained daily flow rate of 3,604 gallons per minute (5.19 MGD) or a peak hourly flow rate of 6,438 gpm (9.27 MGD) complies with the exceptions to antibacksliding at Section 402(o)(2)(B)(i) of the Clean Water Act. This permitting action is establishing monthly average and weekly average blended effluent mass reporting requirements for BOD_5 and TSS to assist in comparing the effluent quality against secondary treatment technology based effluent limits.

7. COMBINED SEWER OVERFLOWS

This permit contains effluent limitations and monitoring requirements for the following combined sewer overflow point source discharges.

Outfall Number	Outfall Location	Receiving Water and Class
002	Oak Grove	Penobscot River, Class B
003	James Street	Penobscot River, Class B
008	South Main Street	Penobscot River, Class B
010	Brewer Cove	Penobscot River, Class B

1) *Combined Sewer Overflow Abatement* 06-096 CMR 570 (last amended February 8, 1978) states that for discharges from overflows from combined municipal storm and sanitary sewer systems, the requirement of "best practicable treatment" specified in 38 M.R.S.A. § 414-A(1)(D) may be met by agreement with the discharger, as a condition of its permit, through development of a plan within a time period specified by the Department. The CSO Master Plan entitled Sewer System Master Plan For CSO Abatement, dated June 1993 was approved on April 12, 1995 and the abatement project schedule was last amended on January 15, 2004 and approved by the Department on January 26, 2004. The most current Master Plan, *Updated Sewer System Master Plan for CSO Abatement* dated December 2014 with abatement schedule was approved on November 2, 2015."

The City has been actively implementing the recommendations of the Master Plan and to date has significantly reduced the volume of untreated combined sewer overflows to the receiving waters. Special Condition M, *Combined Sewer Overflows*, of this permit contains a schedule

7. COMBINED SEWER OVERFLOWS (cont'd)

of compliance for items in the most current up-to-date abatement plan which must be completed.

The Department acknowledges that the elimination of the remaining CSOs in the collection system and the CSO-related bypass of secondary treatment is a costly, long-term project. As the Brewer treatment facility and the sewer collection system is upgraded and maintained in according to the CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO activities and in the wastewater receiving primary treatment only at the treatment plant, and, over time, improvement in the quality of the wastewater discharged to the receiving waters.

8. 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 waterbody to meet standards for Class B classification.

9. PUBLIC COMMENTS

Public notice of this application was made in the *Bangor Daily News* newspaper on or about February 6, 2016. 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 must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

10. DEPARTMENT CONTACTS

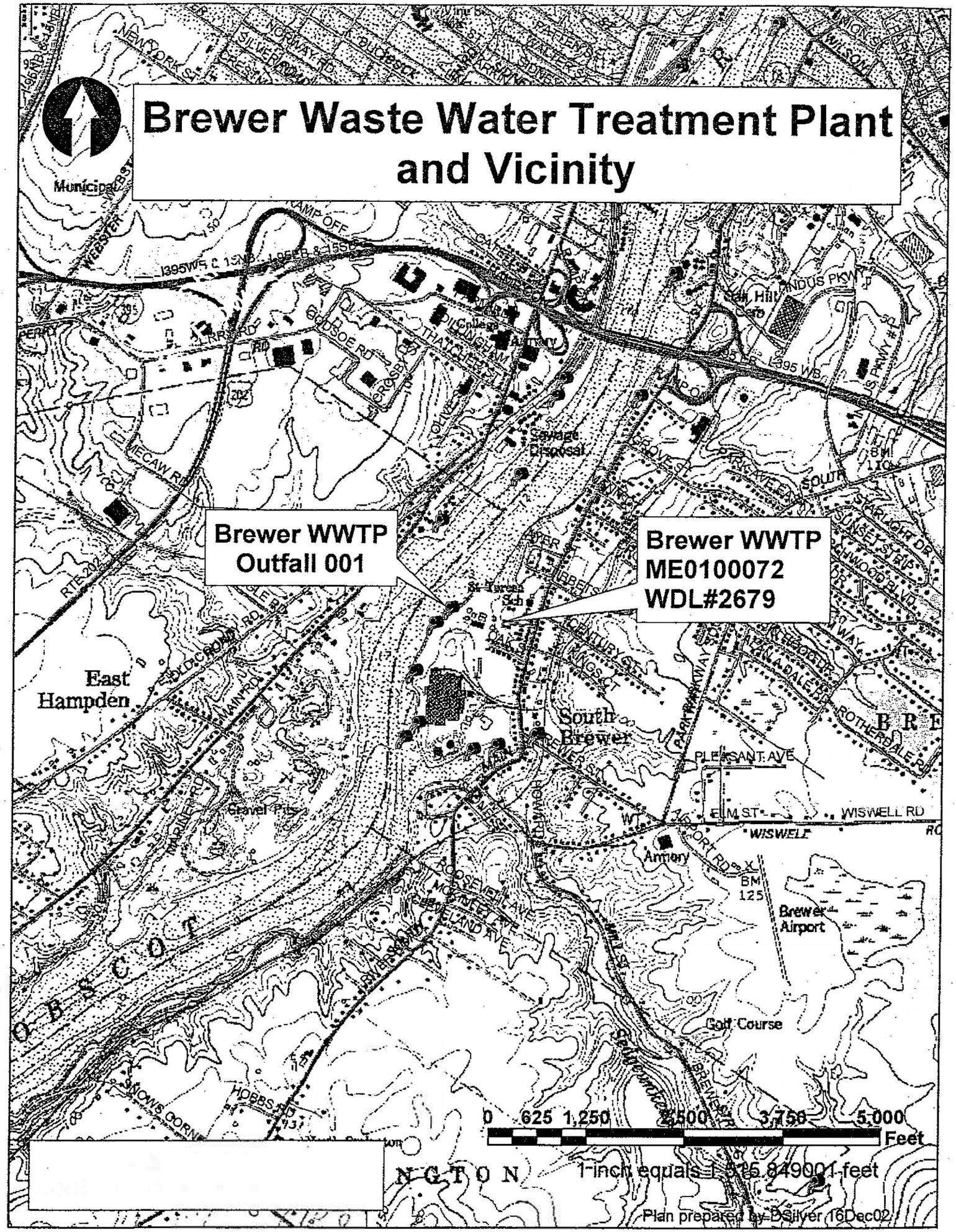
Additional information concerning this permitting action may be obtained from, and written comments sent to:

Cindy L. Dionne
Division of Water Quality Management
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 557-5950
e-mail: Cindy.L.Dionne@maine.gov

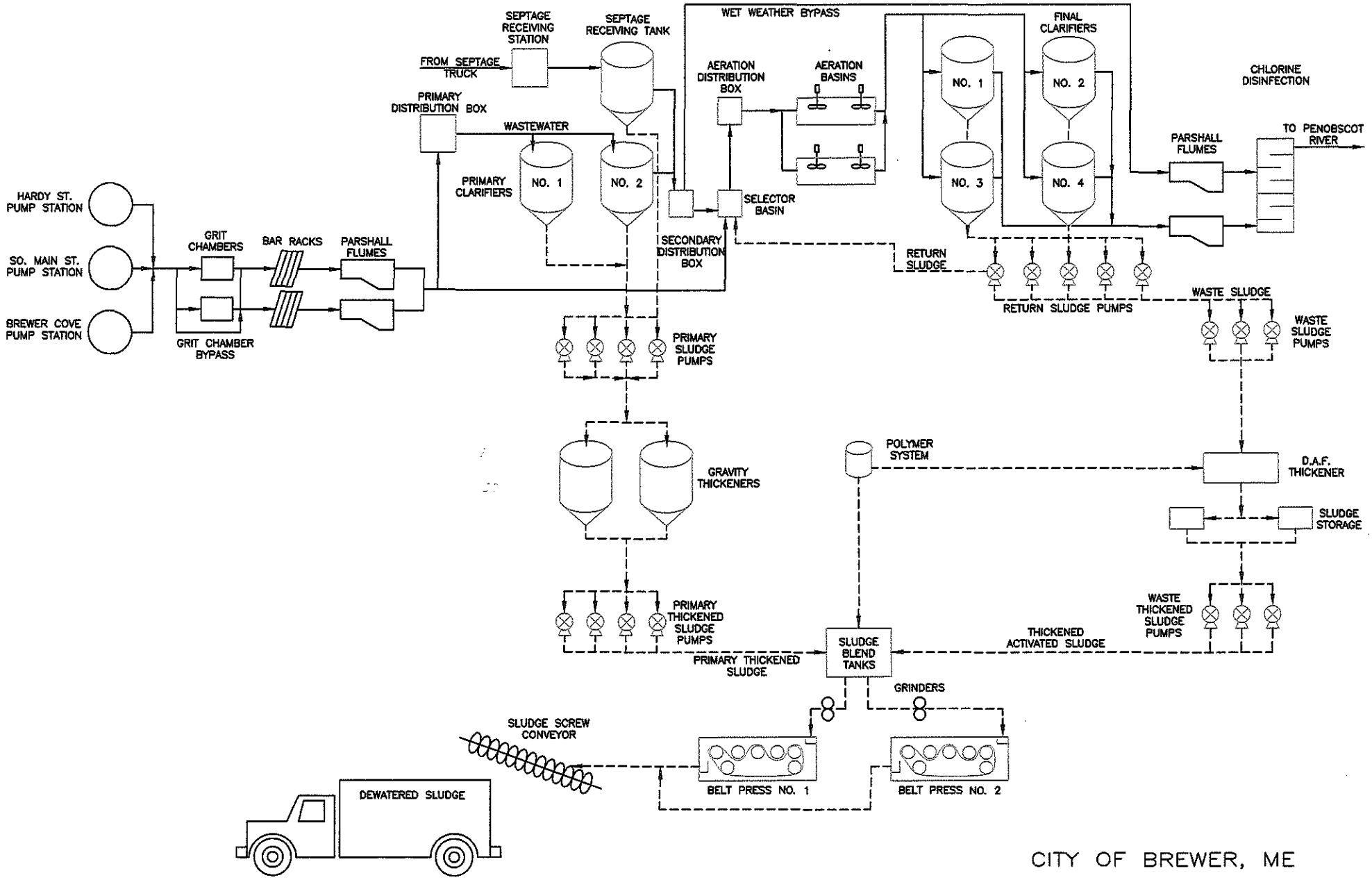
11. RESPONSE TO COMMENTS

Reserved until the end of the formal 30-day public comment period.

ATTACHMENT A


Brewer Waste Water Treatment Plant and Vicinity
Municipal
Brewer WWTP Outfall 001
Brewer WWTP ME0100072 WDL#2679
East Hampden
South Brewer
Brewer Airport
Golf Course
Armory
Gravel Pit
Sewage Disposal
0 625 1,250 2,500 3,750 5,000 Feet
1-inch equals 1,515.849001 feet
Plan prepared by DSilver 16Dec02

ATTACHMENT B



CITY OF BREWER, ME

WASTEWATER TREATMENT PROCESS SCHEMATIC

* THE THIRD UNUSED PRIMARY CLARIFIER IS NOT SHOWN FOR CLARITY.

ATTACHMENT C

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 530.2(D)(4) CERTIFICATION

MEPDES#_____Facility Name_____

Since the effective date of your permit, have there been;		NO	YES Describe in comments section
1	Increases in the number, types, and flows of industrial, commercial, or domestic discharges to the facility that in the judgment of the Department may cause the receiving water to become toxic?	☐	☐
2	Changes in the condition or operations of the facility that may increase the toxicity of the discharge?	☐	☐
3	Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge?	☐	☐
4	Increases in the type or volume of hauled wastes accepted by the facility?	☐	☐

COMMENTS:

Name (printed): _____

Signature:_____Date: _____

This document must be signed by the permittee or their legal representative.

This form may be used to meet the requirements of Chapter 530.2(D)(4). This Chapter requires all dischargers having waived or reduced toxic testing to file a statement with the Department describing changes to the waste being contributed to their system as outlined above. As an alternative, the discharger may submit a signed letter containing the same information.

Scheduled Toxicity Testing for the next calendar year

Test Conducted	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
WET Testing	□	□	□	□
Priority Pollutant Testing	□	□	□	□
Analytical Chemistry	□	□	□	□
Other toxic parameters [1]	□	□	□	□

Please place an "X" in each of the boxes that apply to when you will be conducting any one of the three test types during the next calendar year.

[1] This only applies to parameters where testing is required at a rate less frequently than quarterly.

ATTACHMENT D

WET TEST REPORT

Data for tests conducted for the period

24/Feb/2011 - 24/Feb/2016

BREWER WPCF NPDES= ME0100072 Effluent Limit: Acute (%) = 0.274 Chronic (%) = 0.247

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	100	08/10/2015	0.274		
TROUT	C_NOEL	100	08/10/2015	0.247		
WATER FLEA	A_NOEL	100	08/10/2015	0.274		
WATER FLEA	C_NOEL	100	08/10/2015	0.247		

ATTACHMENT E

FACILITY PRIORITY POLLUTANT DATA REPORT

Data Date Range: 20/Jan/2011 - 20/Jan/2016

Showing only those values not reported as a less than result

Facility name: **BREWER** Permit Number: **ME0100072**

Parameter:	ALUMINUM	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	31.000	N
Parameter:	ARSENIC	**Test date**	**Result (ug/l)**	**Lsthan**
		08/24/2011	6.000	N
		08/15/2012	10.000	N
		08/20/2013	8.000	N
		06/10/2015	4.000	N
Parameter:	CALCIUM	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	36600.000	N
Parameter:	COPPER	**Test date**	**Result (ug/l)**	**Lsthan**
		08/24/2011	4.000	N
		08/15/2012	7.000	N
		08/20/2013	7.000	N
		03/26/2014	12.000	N
		06/10/2015	7.000	N
Parameter:	CYANIDE	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	5.000	N
Parameter:	LEAD	**Test date**	**Result (ug/l)**	**Lsthan**
		08/24/2011	3.000	N
		08/15/2012	3.000	N
Parameter:	MAGNESIUM	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	7600.000	N
Parameter:	MERCURY	**Test date**	**Result (ug/l)**	**Lsthan**
		03/29/2011	0.001	N
		06/29/2011	0.001	N
		09/19/2011	0.001	N
		12/14/2011	0.001	N
		07/22/2012	0.001	N
		07/30/2013	0.001	N
		06/16/2014	0.001	N
		08/03/2015	0.001	N
Parameter:	SILVER	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	0.800	N
Parameter:	TOC	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	8900.000	N
Parameter:	ZINC	**Test date**	**Result (ug/l)**	**Lsthan**
		06/10/2015	47.000	N