STATE OF MAINE
DEPARTMENT OF
ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

Mr. Scott Firmin
Director of Operations – Wastewater Services
Portland Water District
225 Douglass Street
P.O. Box 3553
Portland, ME. 04104-3553
e-mail: sfirmin@pwd.org

March 20, 2017

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0102075
Maine Waste Discharge License (WDL) Application #W002671-5M-L-R
Final Permit

Dear Mr. Firmin:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL **renewal** which was approved by the Department of Environmental Protection. Please read this permit/license renewal and its attached conditions carefully. Compliance with this permit/license will protect water quality.

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

If you have any questions regarding the matter, please feel free to call me at 287-7693. Your Department compliance inspector copied below is also a resource that can assist you with compliance. Please do not hesitate to contact them with any questions.

Thank you for your efforts to protect and improve the waters of the great state of Maine!

Sincerely,

Gregg Wood
Division of Water Quality Management
Bureau of Water Quality

Enc.
cc: Stuart Rose, DEP/SMRO Lori Mitchell, DEP/CMRO Sandy Mojica, USEPA
Olga Vergara, USEPA Marelyn Vega, USEPA Ellen Weitzler, USEPA
David Webster, USEPA Ivy Frignoca, Casco Bay Keeper

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

DEPARTMENT ORDER

IN THE MATTER OF

PORTLAND WATER DISTRICT	)	MAINE POLLUTANT DISCHARGE
EAST END WWTF	)	ELIMINATION SYSTEM PERMIT
PORTLAND, CUMBERLAND COUNTY, ME	)	
PUBLICLY OWNED TREATMENT WORKS	)	AND
ME0102075	)	WASTE DISCHARGE LICENSE
W002671-5M-L-R **APPROVAL**	)	**RENEWAL**

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

APPLICATION SUMMARY

The permittee has submitted a timely and complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0102075/Waste Discharge License #W002671-5M-H-R (permit hereinafter), which was issued by the Department on August 17, 2011, for a five-year term. The permit approved the discharge of secondary treated municipal waste water and allowed an unspecified quantity of primary treated wastewater to bypass secondary treatment at the facility before blending with the secondary treated effluent before discharge to Casco Bay, Class SC. The permit also authorized the discharge of untreated sanitary/storm water from 21 combined sewer overflow (CSO) structures to the Presumpscot River, Casco Bay, Back Cove, Portland Harbor and the Fore River. See **Attachment A** of the Fact Sheet for site location maps.

PERMIT SUMMARY

This permit carries forward all terms and conditions of the August 17, 2011, permit except that this permit is;

1. Incorporating the average and maximum numeric concentration limits for total mercury that were originally established in a permit modification dated May 23, 2000.

2. Reducing the monitoring frequencies for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 5/Week to 3/Week and settleable solids from 1/Day to 5/Week based on a statistical evaluation of the most current 48 months of discharge monitoring data in accordance with U.S. Environmental Protection Agency (EPA) and Department guidance.

PERMIT SUMMARY (cont'd)

3. Eliminating all the terms and conditions of internal Outfall #001B (primary treated waste waters) as limiting an internal waste stream is not necessary given compliance with limitations in this permit are determined after the primary treated and secondary treated waste streams are blended.

4. Establishing numeric daily maximum mass limitations for BOD and TSS for Outfall #001C (blended effluent) based on statistical evaluation of data collected for former Outfall #001B.

5. Requiring the permittee to report the minimum instantaneous flow rate at the headworks of the waste water treatment facility at which time the CSO Related Bypass of secondary treatment is activated.

6. Establishing effluent monitoring and reporting requirements for total kjeldahl nitrogen (TKN), nitrate nitrogen plus nitrate nitrogen and total nitrogen.

7. Establishing Special Condition N entitled *Nitrogen*, requiring the permittee to submit an annual progress report to the Department that summarizes activities related to optimizing nitrogen removal efficiencies, documents the seasonal daily average nitrogen discharge load from the facility and tracks trends relative to the previous year. The progress report must also contain a scope of work or tasks/measures to be taken in the next 12-month period to further reduce the nitrogen loading from the treatment facility.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated April 29, 2016, and revised on August 9, 2016, October 18, 2016, November 4, 2016, and March 20, 2017, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 M.R.S. Section 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;

CONCLUSIONS (cont'd)

c. Where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

e. Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge(s) (including the twenty-one remaining CSOs) will be subject to effluent limitations and terms and conditions that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of PORTLAND WATER DISTRICT to discharge secondary treated waste water and allows an unspecified quantity of primary treated wastewater to bypass secondary treatment at the facility before blending with the secondary treated effluent before discharging to Casco Bay, Class SC. The discharges shall be subject to the attached conditions and all applicable standards and regulations:

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

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

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

ACTION (cont'd)

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS 21st DAY OF March 2017

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie Loyzim
Paul Mercer, Commissioner

Date of initial receipt of application: March 15, 2016

Date of application acceptance: March 15, 2016

Filed
MAR 21 2017
State of Maine
Board of Environmental Protection

Date filed with Board of Environmental Protection _____

This Order prepared by Gregg Wood, BUREAU OF WATER QUALITY

ME0102075 2017 3/20/17

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **secondary treated municipal wastewaters from Outfall #001A** and consistent with CSO bypass regulations, allowed to discharge **blended effluent** to the Fore River. Bypassing secondary treatment is only allowed when the influent flow to the treatment facility has exceeded the instantaneous flow rate of 25,600 gallons per minute (36.8 MGD). Allowance to bypass secondary treatment will be reviewed and may be modified or terminated pursuant to Special Condition P, *Reopening of Permit for Modifications,* if there is substantial change in the volume or character of pollutants in the collection/treatment system.

OUTFALL #001A – Secondary treatment and blended effluent

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]*	Report MGD *[03]*	---	Report MGD *[03]*	---	---	---	Continuous *[99/99]*	Recorder *[RC]*
Influent Flow Rate Minimum *[00058]* ***(When bypass is active)***	---	---	Report (gpm) (1) *[78]*	---	---	---	Instantaneous *[91/99]*	Recorder *[RC]*
Overflow Use, Occurrences(2) *[74062]* ***(When bypass is active)***	---	---	Report (# of days) *[93]*	---	---	---	1/Discharge Day(3) *[01/DD]*	Record Total *[RT]*
Biochemical Oxygen Demand (BOD_5) *[00310]*	4,954 lbs/day *[26]*	7,431 lbs/day *[26]*	Report lbs/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L (4a) *[19]*	3/Week *[03/07]*	Composite *[24]*
BOD_5 *[00310]* ***(When bypass is active)***	4,954 lbs/day *[26]*	7,431 lbs/day *[26]*	33,366 lbs/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	Report mg/L *[19]*	3/Week *[03/07]*	Composite *[24]*
BOD_5 % Removal (4b) *[81010]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*
Total Suspended Solids (TSS) *[00530]*	4,954 lbs/day *[26]*	7,431 lbs/day *[26]*	Report lbs/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	50 mg/L (4a) *[19]*	3/Week *[03/07]*	Composite *[24]*
TSS *[00530]* ***(When bypass is active)***	4,954 lbs/day *[26]*	7,431 lbs/day *[26]*	52,980 lbs/day *[26]*	30 mg/L *[19]*	45 mg/L *[19]*	Report mg/L *[19]*	3/Week *[03/07]*	Composite *[24]*
TSS % Removal (4b) *[81011]*	---	---	---	85% *[23]*	---	---	1/Month *[01/30]*	Calculate *[CA]*

Footnotes: See Pages 10 through 15 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A – Secondary treatment and blended effluent

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Settleable Solids *[00545]*	---	---	---	---	---	0.3 ml/L *[25]*	5/Week *[05/07]*	Grab *[GR]*
Fecal Coliform Bacteria (5) (Year Round) *[74055]*	---	---	---	15/100 ml (6) *[13]*	---	50/100 ml *[13]*	5/Week *[05/07]*	Grab *[GR]*
Fecal Coliform Bacteria ***(When bypass is active)*** *[74055]*	---	---	---	---	---	200/100 ml *[13]*	5/Week *[05/07]*	Grab *[GR]*
Total Residual Chlorine (7) *[50060]*	---	---	---	0.1 mg/L *[19]*	---	0.27 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
Total Residual Chlorine (7) ***(When bypass is active)*** *[50060]*	---	---	---	---	---	1.0 mg/L *[19]*	2/Day *[02/01]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	---	---	6.0 – 9.0 SU *[12]*	1/Day *[01/01]*	Grab *[GR]*
Mercury (Total) (8) *[71900]*	---	---	---	35.3 ng/L *[3M]*	--	53.0 ng/L *[3M]*	1/Year *[01/YR]*	Grab *[GR]*

Footnotes: See Pages 10 through 15 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001A – Secondary treatment and blended effluent

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Total Kjeldahl Nitrogen (as N) *[00625]* ***(May – Oct) Beginning year 2018***	Report lbs/day *[26]*	Report lbs/day *[26]*	Report mg/L *[19]*	Report mg/L *[19]*	1/Week *[01/07]*	Composite *[24]*
Nitrate + Nitrate Nitrogen (as N) *[00630]* ***(May – Oct) Beginning year 2018***	Report lbs/day *[26]*	Report lbs/day *[26]*	Report mg/L *[19]*	Report mg/L *[19]*	1/Week *[01/07]*	Composite *[24]*
Total Nitrogen (as N) *[00600]* ***(May – Oct) Beginning year 2018***	Report lbs/day *[26]*	Report lbs/day *[26]*	Report mg/L *[19]*	Report mg/L *[19]*	1/Week *[01/07]*	Composite *[24]*
Total Nitrogen (as N) (9) *[00600]* ***DMR for the month of October beginning calendar year 2018***	Report lbs/day *[26]*	---	---	---	1/Season *[01/SN]*	Calculate *[CA]*

Footnotes: See Pages 10 through 15 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

SURVEILLANCE LEVEL TESTING - Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit).

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[10]						
Acute – NOEL						
Americamysis bahia [TDM3E] *(Mysid Shrimp)*	---	---	---	Report % [23]	1/2 Years [01/2Y]	Composite [24]
Chronic – NOEL						
Arbacia punctulata [TBH3A] *(Sea urchin)*	---	---	---	Report % [23]	1/2 Years [01/2Y]	Composite [24]
Analytical chemistry[11,13] [51477]	---	---	---	Report ug/L [28]	1/2 Years [01/2Y]	Composite/Grab [24]

Footnotes: **See Pages 10 through 15 of this permit for applicable footnotes.**

SPECIAL CONDITIONS

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

SCREENING LEVEL TESTING - 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.

OUTFALL #001A – Secondary treatment

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(10) Acute – NOEL *Americamysis bahia* [TDM3E] *(Mysid Shrimp)*	---	---	---	Report % [23]	2/Year [02/YR]	Composite [24]
Chronic – NOEL *Arbacia punctulata* [TBH3A] *(Sea urchin)*	---	---	---	Report % [23]	2/Year [02/YR]	Composite [24]
Analytical chemistry(11,13) [51477]	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/Grab [24]
Priority pollutant(12,13) [50008]	---	---	---	Report ug/L [28]	1/Year [01/YR]	Composite/Grab [24]

Footnotes: See Pages 10 through 15 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

Footnotes:

Sampling Locations:

Influent sampling for BOD_5 and TSS must be sampled in the flow splitter box after screening and grit removal.

Effluent receiving secondary treatment (Outfall #001A) must be sampled for all parameters after the chlorine contact chamber(s).

Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling – Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services for waste water. Samples that are analyzed by laboratories operated by waste discharge facilities licensed pursuant to *Waste discharge licenses*, 38 M.R.S. § 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, all results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report.

1. **Minimum instantaneous influent flow** – 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. The minimum instantaneous flow rate is defined as a 60-minute flow average.

SPECIAL CONDITIONS

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

Footnotes:

2. **Overflow occurrence** – An overflow occurrence is defined as the period of time between initiation and cessation of flow through the secondary bypass system if a continuous overflow occurrence is greater than 60 minutes in duration or intermittent occurrences totaling 120 minutes during a 24-hour period. 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.

3. **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.

4. **BOD & TSS**

   a. **Outfall #001A** – Limitations for Outfall #001A remain in effect at all times with the exception of daily maximum concentration limits of 50 mg/L for BOD and TSS on any day when the bypass of secondary treatment is active and any sample results obtained on these days may not to be included in calculations to determine compliance with monthly or weekly average limitations. The daily maximum mass loadings may be measured by sampling the blended effluent or calculated by means of a weighted value by sampling the secondary treated waste stream and sampling the primary treated waste streams independently and mathematically calculating the blended values.

   b. **Percent removal** - The treatment facility must maintain a minimum of 85 percent removal of both BOD_5 and TSS for all waste waters receiving a secondary level of treatment. The percent removal must be based on a monthly average calculation using influent and effluent concentrations. . The percent removal shall be waived if the calculated percent removal is less than 85% and the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility may report "*N-9*" on the monthly Discharge Monitoring Report.

5. **Fecal coliform bacteria** - Limits and monitoring requirements apply year-round as requested by the Maine Department of Marine Resources to protect the integrity of local shellfishing habitats and the health, safety, and welfare of the public.

6. **Fecal coliform bacteria** – The monthly average limitation is a geometric mean limit and values must be calculated and reported as such.

SPECIAL CONDITIONS

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

Footnotes:

7. **Total Residual Chlorine (TRC)** – Limitations and monitoring requirements are in effect any time elemental chlorine or chlorine based compounds are utilized to disinfect the discharge(s). The permittee must utilize an EPA-approved test method capable of bracketing the TRC limitations specified in this permitting action.

8. **Mercury** – The permittee must conduct all mercury sampling 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 1631E, *Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.* See **Attachment A** for a Department report form for mercury test results. Compliance with the monthly average limitation established in Special Condition A.1 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. . Tests must be conducted in a different calendar quarter of each year such that tests are conducted in all four quarters during the term of the permit.

9. **Total Nitrogen (as N) – Seasonal daily average** - The permittee is required to report the seasonal daily average mass of total nitrogen discharged from the facility on the October DMR for each year beginning calendar year 2018. The seasonal daily average mass shall be calculated by summing the mass results for each sampling event and dividing by the total number of samples. See Special Condition N of this permit for annual reporting requirements and see page 26 of the Fact Sheet of this permit for the existing seasonal daily average mass loading for the waste water treatment facility. See **Attachment H** of this permit for the Department's protocol entitled, *Protocol For Total Nitrogen Sample Collection and Analysis For Waste Water Effluent.* At the conclusion of two years of testing (2018 & 2019) the permittee may petition the Department for a reduction in the monitoring frequency from 1/Week to 1/Month

SPECIAL CONDITIONS

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

Footnotes:

10. **Whole Effluent Toxicity (WET) Testing** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions set at levels to bracket the critical acute and chronic water quality thresholds of 4.8% and 2.4% respectively – mathematical inverses of the acute and chronic dilution factors of 21:1 and 41:1 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 or growth as the end points.

    a. **Surveillance level testing** – Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee must conduct chronic surveillance level WET testing at a frequency of once every other year (1/2 Years) on the sea urchin (*Arbacia punctulata)* and acute tests conducted once every other year (1/2 Years) on the mysid shrimp (*Americamysis bahia)*. One of the acute tests on mysid shrimp must be conducted during a CSO related bypass event. Tests must be conducted in a different calendar quarter of each year such that tests are conducted in all four quarters during the term of the permit.

    b. **Screening level testing** - 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, the permittee must conduct screening level WET testing at a frequency of 2/Year. There shall be a minimum of six (6) months between testing events. Acute tests must be conducted on the mysid shrimp (*Americamysis bahia)* and chronic tests shall be conducted on the sea urchin (*Arbacia punctulata*).

    Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, the permittee may review the laboratory reports for up to 10 business days after receiving the test results from the laboratory conducting the testing 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 4.8% and 2.4%, respectively.

SPECIAL CONDITIONS

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

Footnotes:

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

a. U.S. Environmental Protection Agency, 2002. Short-term Methods for Estimating the chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third edition, October 2002, EPA 821-R002-014.

b. Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012.

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

11. **Analytical Chemistry** – Refers to those pollutants listed under "Analytical Chemistry" on the Toxsheet form included as **Attachment C** of this permit.

a. **Surveillance level testing –** Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee must conduct analytical chemistry testing at a frequency of once every other year (1/2Years). Tests must be conducted in a different calendar quarter of each year.

b. **Screening level testing** - 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, the permittee must conduct screening level analytical chemistry testing at a minimum frequency of four times per year (4/Year) in successive calendar quarters.

SPECIAL CONDITIONS

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

Footnotes:

12. **Priority Pollutant Testing** – Refers to those pollutants listed under "Priority Pollutants" on the Toxsheet form included as **Attachment C** of this permit.

    a. **Surveillance level testing** – Not required pursuant 06-096 CMR Chapter 530(2)(D)(3)(b).

    b. **Screening level testing** - 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, the permittee must conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year) in any calendar quarter provided the sample is representative of the discharge.

13. **Priority Pollutant and Analytical Chemistry Testing** – This testing must be conducted on samples collected at the same time as those collected for whole effluent toxicity tests when applicable. Priority pollutant and analytical chemistry testing must be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department.

    Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the laboratory reports for up to 10 business days of their availability before submitting them. The permittee must evaluate test results being submitted and identify to the Department, possible exceedances of the acute, chronic or human health AWQC as established in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (last amended July 29, 2012). For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "N9" monitoring not required this period.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

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

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

3. The discharge must not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated for the classification of the receiving waters.

4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The person who has the 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*, Title 32 M.R.S., Sections 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.

D. 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).

SPECIAL CONDITIONS

E. NOTIFICATION REQUIREMENT

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

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

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:

   (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and

   (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

F. 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 March 15, 2016; 2) the terms and conditions of this permit; and 3) Outfall #001A and the twenty-one (21) combined sewer overflow (CSO) outfalls listed in Special Condition L of this permit. Discharges of waste water 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.

G. HIGH FLOW MANAGEMENT PLAN

The permittee must maintain a current, written High 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 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. **The permittee must review their plan annually** and record any necessary changes to keep the plan up to date.

SPECIAL CONDITIONS

H. OPERATION & MAINTENANCE (O&M) PLAN

This facility must have a current written comprehensive Operation & Maintenance (O&M) Plan. 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, and 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 waste water 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 EPA personnel upon request.

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

I. 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 96299]***. See **Attachment E** of the attached 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; and

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

(d) Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge.

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

The Department reserves the right to reinstate routine surveillance level testing or other toxicity testing if new information becomes available that indicates the discharge may cause or have a reasonable potential to cause exceedences of ambient water quality criteria/thresholds.

SPECIAL CONDITIONS

J. DISPOSAL OF TRANSPORTED WASTES IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to receive and introduce to the treatment process or solids handling stream **a maximum of 24,000 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 shall 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 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;
    (c) 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.

SPECIAL CONDITIONS

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

5. The addition of transported wastes into the treatment process or solids handling stream must not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment process or solids handling facilities become overloaded, introduction of 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 shall 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 High 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.

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 to receive and treat transported wastes 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 06-096 CMR 555 and the terms and conditions of this permit.

SPECIAL CONDITIONS

K. RESERVED

L. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs)

Pursuant to *Combined Sewer Overflow Abatement*, 06-096 CMR 570, the permittee is authorized to discharge from the following locations of CSOs (storm water/sanitary waste water) subject to the conditions and requirements contained herein:

1. CSO locations

Outfall # (PWD #)	Regulator Location	Outfall Location	Receiving Water and Class
002 (022)	Arcadia St. Pump Station	End of Arcadia St.	Presumpscot Estuary, SC
004 (026)	Tukey's Bridge Siphon	B&M Baked Beans	Casco Bay, SC
005 (010)	Randall Street	Baxter Blvd. and Randall St.	Back Cove, SC
007 (011)	Ocean Avenue	Baxter Blvd.	Back Cove, SC
008 (020)	Clifton St.	Baxter Blvd. and Clifton St.	Back Cove, SC
009 (012)	George Street	Baxter Blvd. and George St.	Back Cove, SC
010 (014)	Mackworth St.	Baxter Blvd. and Mackworth St.	Back Cove, SC
011 (017)	Chenery Street	Baxter Blvd. and Chenery St.	Back Cove, SC
012 (018)	Vannah Ave.	Baxter Blvd and Vannah Ave.	Back Cove, SC
015 (019)*	Dartmouth St.	Baxter Blvd. and Dartmouth St.	Back Cove, SC
016 (021)*	Bedford Street	Baxter Blvd.	Back Cove, SC
020 (024)	Northeast Pump Station	Northeast Pump Station, Marginal Way	Casco Bay, SC

SPECIAL CONDITIONS

L. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs)

023 (003)	India St. Pump Station	Portland Ferry Terminal	Portland Harbor, SC
025 (004)	Long Wharf	Commercial St. and Franklin	Portland Harbor, SC
027 (005)	Clark Street	Commercial St. and Clark St.	Portland Harbor, SC
028 (006)	Emery Street	Commercial St. and Emery St.	Portland Harbor, SC
029 (007)	Commercial Street	Commercial St.	Fore River, SC
030 (008)	St. John Street	Barber Foods Parking Lot	Fore River, SC
032 (028)	Thompson's Point Pump Station	Thompson's Point Pump Station	Fore River, SC
033 (009)	Fore River Pump Station	Fore River Pump Station	Fore River, SC
034 (025)	Brewer Street	End of Brewer St.	Fore River, SC

*There are two (2) regulators each for CSOs #015 and #016. The permittee owns one of each and the City of Portland owns one of each.

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 shall occur as a result of mechanical failure, improper design or inadequate operation or maintenance.

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

SPECIAL CONDITIONS

L. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

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.

   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) Notwithstanding specific conditions of this permit, 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 Sections 2 & 3 of Chapter 570 Department Rules)

   The permittee must continue to work with the City of Portland to implement CSO control projects in accordance with the approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled, *Combined Sewer Overflow Abatement Study Master Plan-City of Portland, Maine*, dated December 1993 (revised in January 1997) and abatement project schedule was approved on June 25, 1997. The abatement schedule was modified in the document entitled, *City of Portland Tier II Combined Sewer Overflow Abatement 8-Year Implementation Plan,* dated February 5, 2003 and was approved by the Department on February 10, 2003 and subsequently modified in a letter entitled, *City of Portland – Request to Modify the CSO Master Plan Schedule*, dated April 8, 2008. The schedule was further modified in a letter titled *City of Portland - Request to Modify Tier II Combined Sewer Overflow Abatement Implementation Plan*, dated January 25, 2011, and approved by the Department on February 24, 2011. The schedule was further modified in a document submitted to the Department on January 25, 2013, entitled *Combined Sewer Overflow Long Term Control Plan, Tier III Update*. The document was reviewed and approved by the Department on April 19, 2013. The abatement schedule may be amended from time to time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

SPECIAL CONDITIONS

L. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOs) (cont'd)

5. Nine Minimum Controls (NMC) (see Section 5 of 06-096 CMR 570)

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

6. CSO Compliance Monitoring Program (see Section 6 of 06-096 CMR 570)

   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 EPA'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 shall be reported on the Department form "*CSO Activity and Volumes*" (**Attachment E** of this permit) or similar format and submitted to the Department electronically.

   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 shall not apply to those areas where complete separation has been completed and CSO outfalls have been eliminated.

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

   06-096 CMR 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 shall 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. Any sewer extensions upstream of a CSO must be reviewed and approved by the Department prior to their connection to the collection system. A Sewer Extension/Addition Reporting Form must be completed and submitted to the Department along with plans and specifications of the proposed extension/addition.

SPECIAL CONDITIONS

L. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOS) (cont'd)

8. Annual CSO Progress Reports (see Section 7 of 06-096 CMR 570)

By March 1 of each year ***[ICIS Code CSO10],***, the permittee must submit an Annual CSO Progress Report covering the previous calendar year (January 1 to December 31) to the Department. The CSO Progress Report must include, but is not necessarily limited to, the following topics as further described in 06-096 CMR 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@state.me.us

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 shall contain the following information:

PORTLAND WATER DISTRICT
WET WEATHER
SEWAGE DISCHARGE
CSO # AND NAME

SPECIAL CONDITIONS

L. CONDITIONS FOR COMBINED SEWER OVERFLOWS (CSOS) (cont'd)

10. Definitions

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

a. Combined Sewer Overflow - a discharge of excess waste water 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.

M. INDUSTRIAL PRETREATMENT PROGRAM

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

a. The permittee must develop and enforce specific effluent limits (local limits) or conditions (Best Management Practices) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW facilities or operation, are necessary to ensure continued compliance with the POTWs MEPDES permit or sludge use or disposal practices. Specific local limits must not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

Within 120 days from final completion of the ongoing aeration system upgrade project, ***[ICIS code PR002]*** the permittee must prepare and submit a written technical evaluation to the Department analyzing the need to revise local limits. As part of this evaluation, the permittee must assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the permittee must complete the "Re-Assessment of Technically Based Local Limits" form included as **Attachment F** of this permit with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be

SPECIAL CONDITIONS

M. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee must complete the revisions within 120 days of notification by the Department and submit the revisions to the Department for approval. The permittee must carry out the local limits revisions in accordance with USEPA's document entitled, *Local Limits Development Guidance (July 2004).*

2. The permittee must implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, found at 40 CFR 403 and *Pretreatment Program*, 06-096 CMR 528 (effective January 12, 2001). At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

   a. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users must be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

   b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

   c. Obtain appropriate remedies for noncompliance by an industrial user with any pretreatment standard and/or requirement.

   d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

   e. The permittee must provide the Department with an annual report describing the permittee's pretreatment program activities for the twelve-month period ending 60 days prior to the due date in accordance with federal regulation found at 40 CFR 403.12(i) and 06-096 CMR 528(12)(-i). The annual report ***[ICIS code 53199]*** must be consistent with the format described in the "MEPDES Permit Requirements For Industrial Pretreatment Annual Report" form included as **Attachment G** of this permit and must be submitted no later than October 31st of each calendar **year.**

SPECIAL CONDITIONS

M. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

f. The permittee must obtain approval from the Department prior to making any significant changes to the industrial pretreatment program in accordance with federal regulation found at 40 CFR 403.18(c) and 06-096 CMR 528(18).

g. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the federal regulations found at 40 CFR 405-471.

h. The permittee must modify its pretreatment program to conform to all changes in the federal regulations and State rules that pertain to the implementation and enforcement of the industrial pretreatment program. **Within 180 days of the effective date of this permit,** ***[ICIS code 50799]*** the permittee must provide the Department in writing, proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current federal regulations and State rules. At a minimum, the permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee must implement these proposed changes pending the Department's approval under federal regulation 40 CFR 403.18 and 06-096 CMR 528(18). This submission is separate and distinct from any local limits analysis submission described in section 1(a) above.

N. NITROGEN

The permittee must continue to operate the East End waste water treatment facility to optimize nitrogen removal in order to maintain the mass discharge of total nitrogen no greater than the existing seasonal daily average mass loading of total nitrogen. Seasonal is defined as May 1st – October 31st of each year. See page 26 of the Fact Sheet of this permit for the calculations estimating the existing seasonal daily average mass loading of nitrogen.

On or before **December 31st** of each year beginning calendar year 2018, the permittee must submit an annual progress report ***(ICIS Code CSO10)*** to the Department that summarizes activities related to optimizing nitrogen removal efficiencies, documents the seasonal nitrogen discharge load from the facility and tracks trends relative to the previous year. The progress report must also contain a scope of work or tasks/measures to be taken in the next 12-month period to further reduce the nitrogen loading from the treatment facility.

SPECIAL CONDITIONS

O. MONITORING AND REPORTING

Electronic Reporting

NPDES Electronic Reporting, 40 C.F.R. 127, requires MEPDES permit holders to submit monitoring results obtained during the previous month on an electronic discharge monitoring report to the regulatory agency utilizing the USEPA electronic system.

Electronic Discharge Monitoring Reports (DMRs) submitted using the USEPA NetDMR system, must be:

1. Submitted by a facility authorized signatory; and
2. Submitted no later than **midnight on the 15th day of the month** following the completed reporting period.

Documentation submitted in support of the electronic DMR may be attached to the electronic DMR. Toxics reporting must be done using the DEP Toxsheet reporting form included as **Attachment C** of this permit. An electronic copy of the Toxsheet reporting document must be submitted to the Department assigned compliance inspector as an attachment to an email. In addition, a hardcopy form of this sheet must be signed and submitted to the Department assigned compliance inspector, or a copy attached to your NetDMR submittal will suffice. Documentation submitted electronically to the Department in support of the electronic DMR must be submitted no later than midnight on the 15th day of the month following the completed reporting period.

An electronic copy of the secondary treatment bypass reporting document must be submitted to the Department assigned compliance inspector and the CSO Coordinator as an attachment to an email. In addition, a hardcopy form of this sheet must be signed and submitted to the Department assigned compliance inspector, or a copy attached to your NetDMR submittal will suffice. Documentation submitted electronically to the Department in support of the electronic DMR must be submitted no later than midnight on the 15th day of the month following the completed reporting period.

Non-electronic Reporting

If you have received a waiver from the Department concerning the USEPA electronic reporting rule, or are permitted to submit hardcopy DMR's to the Department, then your monitoring results obtained during the previous month must be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period.

SPECIAL CONDITIONS

O. MONITORING AND REPORTING (cont'd)

Toxsheet reporting forms must be submitted electronically as an attachment to an email sent to your Department compliance inspector. In addition, a signed hardcopy of your Toxsheet must also be submitted.

A signed copy of the DMR and all other reports required herein must be submitted to the Department assigned compliance inspector (unless otherwise specified) following address:

Department of Environmental Protection
Southern Maine Regional Office
Bureau of Water Quality
Division of Water Quality Management
312 Canco Road
Portland, ME. 04103

An electronic version of *"CSO Activity and Volumes"* (**Attachment E** of this permit) or similar format shall be submitted to the Department assigned compliance inspector at the above address and to the CSO Coordinator at the address below:

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

P. REOPENING OF PERMIT FOR MODIFICATIONS

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

SPECIAL CONDITIONS

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

ATTACHMENT A

Maine Department of Environmental Protection

Effluent Mercury Test Report

Name of Facility: _____ Federal Permit # ME _____

Purpose of this test:
- ☐ Initial limit determination
- ☐ Compliance monitoring for: year _____ calendar quarter _____
- ☐ Supplemental or extra test

SAMPLE COLLECTION INFORMATION

Sampling Date: ___ ___ _____ (mm dd yy) Sampling time: _____ AM/PM

Sampling Location:

Weather Conditions: _____

Please describe any unusual conditions with the influent or at the facility during or preceding the time of sample collection:

Optional test - not required but recommended where possible to allow for the most meaningful evaluation of mercury results:

Suspended Solids _____ mg/L Sample type: _____ Grab (recommended) or _____ Composite

ANALYTICAL RESULT FOR EFFLUENT MERCURY

Name of Laboratory: _____

Date of analysis: _____ **Result:** _____ **ng/L (PPT)**

Please Enter Effluent Limits for your facility

Effluent Limits: **Average =** _____ ng/L **Maximum =** _____ ng/L

Please attach any remarks or comments from the laboratory that may have a bearing on the results or their interpretation. If duplicate samples were taken at the same time please report the average.

CERTIFICATION

I certifiy that to the best of my knowledge the foregoing information is correct and representative of conditions at the time of sample collection. The sample for mercury was collected and analyzed using EPA Methods 1669 (clean sampling) and 1631 (trace level analysis) in accordance with instructions from the DEP.

By: _____ Date: _____

Title: _____

PLEASE MAIL THIS FORM TO YOUR ASSIGNED INSPECTOR

ATTACHMENT B

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
MARINE 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	
	mysid shrimp	sea urchin
A-NOEL		
C-NOEL		

Effluent Limitations	
A-NOEL	
C-NOEL	

Data summary	mysid shrimp	sea urchin
	% survival	% fertilized
QC standard	>90	>70
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

Salinity Adjustment	
brine	
sea salt	
other	

Reference toxicant	mysid shrimp	sea urchin
	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 (Marine Version), March 2007."

ATTACHMENT C

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)	m		

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.

MARINE AND ESTUARY 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]		
	WHOLE EFFLUENT TOXICITY		Acute	Chronic			WET Result, % Do not enter % sign	Reporting Limit Check	Acute	Chronic	
	Mysid Shrimp										
	Sea Urchin										
	WET CHEMISTRY										
	pH (S.U.) (9)										
	Total Organic Carbon (mg/L)					NA					
	Total Solids (mg/L)					NA					
	Total Suspended Solids (mg/L)					NA					
	Salinity (ppt.)										
	ANALYTICAL CHEMISTRY [3]		Effluent Limits, ug/L						Possible Exceedence [7]		
	Also do these tests on the effluent with WET. Testing on the receiving water is optional	Reporting Limit	Acute[6]	Chronic[6]	Health[6]			Reporting Limit Check	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
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

	PRIORITY POLLUTANTS [4]		Effluent Limits						Possible Exceedence [7]		
		Reporting Limit	Acute[6]	Chronic[6]	Health[6]			Reporting Limit Check	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
WET and Chem
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

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									

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 D

RESERVED

ATTACHMENT E

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											
12											
13											
14											
15											
16											
17											
18											
19											
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 F

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

Pursuant to federal regulation 40 CFR Part 122.21(j)(4) and Department rule Chapter 528, all Publicly Owned Treatment Works (POTWs) with approved Industrial Pretreatment Programs (IPPs) shall provide the Department with a written evaluation of the need to revise local industrial discharge limits under federal regulation 40 CFR Part 403.5(c)(1) and Department rule 06-096 CMR Chapter 528(6).

Below is a form designed by the U.S. Environmental Protection Agency (EPA - New England) to assist POTWs with approved IPPs in evaluating whether their existing Technically Based Local Limits (TBLLs) need to be recalculated. The form allows the permittee and Department to evaluate and compare pertinent information used in previous TBLLs calculations against present conditions at the POTW. **Please read the directions below before filling out the attached form.**

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your previous MEPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your reissued MEPDES permit.

  The 7Q10 value is the lowest seven day average flow rate, in the river, over a ten-year period. The 7Q10 value and/or dilution ratio used by the Department in your MEPDES permit can be found in your MEPDES permit "Fact Sheet."

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

* List what your existing TBLLs are - as they appear in your current Sewer Use Ordinance (SUO).

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

ITEM III.

* Identify how your existing TBLLs are allocated out to your industrial community. Some pollutants may be allocated differently than others, if so please explain.

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current MEPDES permit limitations - include toxicity.

ITEM V.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in pounds per day) received in the POTW's influent. Current sampling data is defined as data obtained over the last 24 month period.

  All influent data collected and analyzed must be in accordance with federal regulation 40 CFR Part 136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace, or other approved method.

  Based on your existing TBLLs, as presented in Item II., list in Column (2) each Maximum Allowable Industrial Headworks Loading (MAIHL) value corresponding to each of the local limits derived from an applicable environmental criteria or standard, *e.g.* water quality, sludge, MEPDES permit, inhibition, etc. For each pollutant, the MAIHL equals the calculated Maximum Allowable Headwork Loading (MAHL) minus the POTW's domestic loading source(s). For more information, please see, *Local Limits Development Guidance (July 2004).*

ITEM VI.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in micrograms per liter) present your POTW's effluent. Current sampling data is defined as data obtained during the last 24 month period.

  All effluent data collected and analyzed must be in accordance with federal regulation 40 CFR Part 136. Sampling data collected should be analyzed using the lowest possible detection method(s), *e.g.* graphite furnace, or other approved method.

RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS

* List in Column (2A) what the Ambient Water Quality Criteria (AWQC) (found in Department rule Chapter 584 –*Surface Water Quality Criteria For Toxic Pollutants, Appendix A,* October 2005) were (in micrograms per liter) when your TBLLs were calculated. Please note what hardness value was used at that time. Hardness should be expressed in milligrams per liter of Calcium Carbonate. In the absence of a specific AWQC, control(s) adequate to protect the narrative water quality standards for the receiving water may be applied.

List in Column (2B) the current AWQC values for each pollutant multiplied by the dilution ratio used in your reissued MEPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 20 mg/l - Calcium Carbonate (copper's chronic freshwater AWQC equals 2.36 ug/l) the chronic MEPDES permit limit for copper would equal 45 ug/l. Example calculation:

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]
Chronic AWQC = 2.36 ug/L

Chronic EOP = [25 x $0.75^{(1)}$ x 2.36 ug/L] + [0.25 x 2.36 ug/L] = 45 ug/L

(1) Department rule Chapter 530, *Surface Water Toxics Control Program*, October 2005) requires that 10% of the AWQC be set aside for background that may be present in the receiving water and 15% of the AWQC be set aside as a reserve capacity for new dischargers or expansion of existing discharges.

ITEM VII.

* In Column (1), list all pollutants (in micrograms per liter) limited in your reissued MEPDES permit. In Column (2), list all pollutants limited in your previous MEPDES permit.

ITEM VIII.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants in your POTW's biosolids. Current data is defined as data obtained during the last 24-month period. Results are to be expressed as total dry weight.

All biosolids data collected and analyzed must be in accordance with federal 40 CFR Part 136.

In Column (2A), list current State and/or Federal sludge standards that your facility's biosolids must comply with. Also note how your POTW currently manages the disposal of its biosolids. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria will be and method of disposal.

If you have any questions, please contact the State Pretreatment Coordinator at the Maine Department of Environmental Protection, Bureau of Land & Water Quality, Division of Water Quality Management, State House Station #17, Augusta, ME. 04333. The telephone number is (207) 287-8898, and the email address is james.r.crowley@maine.gov.

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

MEDES Permit # : _____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance : _____

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1)	**Column (2)**
	EXISTING TBLLs	PRESENT CONDITIONS
POTW Flow (MGD)	_____	_____
SIU Flow (MGD)	_____	_____
Dilution Ratio or 7Q10 from the MEPDES Permit)	_____	_____
Safety Factor	_____	_____
Biosolids Disposal Method(s)	_____	_____

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM II.

EXISTING TBLLs

POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)	POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)

ITEM III.

Note how your existing TBLLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

ITEM IV.

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLLs were calculated?

If yes, explain. _____
_____

Has your POTW violated any of its MEPDES permit limits and/or toxicity test requirements?

If yes, explain. _____
_____

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Industrial Headwork Loading (MAIHL) values used to derive your TBLLs listed in Item II. In addition, please note the environmental criteria for which each MAIHL value was established, *i.e.* water quality, sludge, MEPDES, etc.

Pollutant	**Column (1)** Influent Data Analyses Maximum (lb/day)	Average (lb/day)	**Column (2)** MAIHL Values (lb/day)	Criteria
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Other (List)				

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Ambient Water Quality Criteria (AWQC) were at the time your existing TBLLs were developed. List in Column (2B) current AWQC values multiplied by the dilution ratio used in your reissued MEPDES permit.

	Column (1) Effluent Data Analyses		**Columns (2A)** Water Quality Criteria (AWQC)	**(2B)**
	Maximum (ug/l)	Average (ug/l)	From TBLLs (ug/l)	Today (ug/l)
Pollutant				
Arsenic				
Cadmium*				
Chromium*				
Copper*				
Cyanide				
Lead*				
Mercury				
Nickel*				
Silver				
Zinc*				
Other (List)				

*Hardness Dependent (mg/l - CaCO3)

RE-ASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

ITEM VII.

In Column (1), identify all pollutants limited in your reissued MEPDES permit. In Column (2), identify all pollutants that were limited in your previous MEPDES permit.

Column (1) REISSUED PERMIT		**Column (2)** PREVIOUS PERMIT	
Pollutants	Limitations (ug/l)	Pollutants	Limitations (ug/l)

ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that were used at the time your existing TBLLs were calculated. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

	Column (1) Biosolids Data Analyses Average (mg/kg)	**Columns (2A)** Biosolids Criteria From TBLLs (mg/kg)	**(2B)** New (mg/kg)
Pollutant			
Arsenic			
Cadmium			
Chromium			
Copper			
Cyanide			
Lead			
Mercury			
Nickel			
Silver			
Zinc			
Molybdenum			
Selenium			
Other (List)			

ATTACHMENT G

MEPDES PERMIT REQUIREMENTS
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in federal regulation 40 CFR Part 403.8 and Department rule 06-096 CMR Chapter 528(9) indicating compliance or noncompliance with the following:

   - baseline monitoring reporting requirements for newly promulgated industries
   - compliance status reporting requirements for newly promulgated industries
   - periodic (semi-annual) monitoring reporting requirements,
   - categorical standards, and
   - local limit.

2. A summary of compliance and enforcement activities during the preceding year, including the number of:

   - significant industrial users inspected by POTW (include inspection dates for each industrial user);
   - significant industrial users sampled by POTW (include sampling dates for each industrial user);
   - compliance schedules issued (include list of subject users);
   - written notices of violations issued (include list of subject users);
   - administrative orders issued (include list of subject users),
   - criminal or civil suits filed (include list of subject users); and
   - penalties obtained (include list of subject users and penalty amounts).

3. A list of significantly violating industries required to be published in a local newspaper in accordance with federal regulation 40 CFR Part 403.8(f)(2)(viii) and Department rule 06-096 CMR Chapter 528(9)(f)(2)(vii).

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority.

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the POTW and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this permit.

MEPDES PERMIT REQUIREMENTS
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

At a minimum, annual sampling and analysis of the influent and effluent of the POTW shall be conducted for the following pollutants:

a.) Total Cadmium	f.) Total Nickel
b.) Total Chromium	g.) Total Silver
c.) Total Copper	h.) Total Zinc
d.) Total Lead	i.) Total Cyanide
e.) Total Mercury	j.) Total Arsenic

The sampling program shall consist of one 24-hour, flow-proportioned, composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly, flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually, or shall consist of a minimum of 48 samples collected at 30-minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with federal regulation 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year.

7. A thorough description of all investigations into interference and pass-through during the past year.

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies.

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users.

10. The date of the latest adoption of local limits and an indication as to whether or not the City is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

ATTACHMENT H

Protocol for Total Nitrogen Sample Collection and Analysis for Waste Water Effluent

Approved Analytical Methods (from Table 1 B of Part 136 per the 2012 Method Update Rule): (laboratory must be certified for any method performed)

Total Kjeldahl Nitrogen (TKN):

Manual digestion and distillation or gas diffusion followed by any of the following	SM4500-Norg B-97 or C-97 and SM4500-NH3 B-97		ASTM D3590-02 (06) (A)	I-4515-9145
Titration	SM4500-NH3 C-97		ASTM D3590-89, 02 (A)	973.48.3
Nesslerization			ASTM D1426-08 (A)	
Electrode	SM4500-NH3 D-97 or E-97		ASTM D1426-08 (B)	
Semi-automated phenate	EPA 350.1 Rev. 2.0 (1993)		SM4500-NH3 G-97 or H-97	
Manual phenate, salicylate, or other substituted phenols in Berthelot reaction based methods	SM4500-NH3 F-1997			
Automated methods for TKN that do not require manual digestion				
Automated phenate, salicylate, or other substituted phenols in Berthelot reaction based methods colorimetric (auto digestion and distillation)	EPA 351.1 (1978)			I-4551-788
Semi-automated block digestor colorimetric (distillation not required)	EPA 351.2, Rev. 2.0 (1993)	SM4500-Norg D-97	ASTM D3590-02 (06) (B)	I-4515-9145

Nitrate + Nitrite (NO3 + NO2):

Cadmium reduction, Manual		SM4500-NO3 E-00	ASTM D3867-04 (B)	
Cadmium reduction, Automated, or	EPA 353.2, Rev. 2.0 (1993)	SM4500-NO3 F-00	ASTM D3867-04(A)	I-4545-852
Automated hydrazine		SM4500-NO3 H-00		
Ion chromatography	EPA 300.0, Rev. 2.1 (1993) and EPA 300.1, rev. 1.0 (1997)	SM4110 B-00 or C-00	ASTM D4327-03	993.303
CIE/UV		SM4140 B-97	ASTM D6508-00 (05)	ASTM D6508, Rev. 2

Sample Collection: The Maine DEP is requesting that total nitrogen analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute H_2SO_4. This cleaning should be followed by several rinses with distilled water. Commercially purchased, pre-cleaned sample containers are an acceptable alternative. The sampler hoses should be cleaned; as needed.

Sample Preservation: During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H_2SO_4 to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

Laboratory QA/QC: Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods.

Sampling QA/QC: If a composite sample is being collected using an automated sampler, then once per month run a blank on the composite sampler. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total nitrogen. Preserve this sample as described above.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

April 29, 2016
Revised: August 9, 2016
October 18, 2016
November 8, 2016
March 20, 2017

PERMIT NUMBER: **ME0102075**
LICENSE NUMBER: **W002671-5M-L-R**

NAME AND ADDRESS OF APPLICANT:

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, Maine 04104-3553

COUNTY: **Cumberland County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

EAST END WASTEWATER TREATMENT FACILITY
500 Marginal Way
Portland, Maine 04108

RECEIVING WATER AND CLASSIFICATION: **Casco Bay/Class SC**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Scott Firmin, P.E.**
Director of Wastewater Services
(207) 774-5961 x 3077
sfirmin@pwd.org

1. APPLICATION SUMMARY

a. Application: The permittee has submitted a timely and complete application to the Department for renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0102075/Waste Discharge License #W002671-5M-H-R (permit hereinafter), which was issued was issued by the Department on August 17, 2011, for a five-year term. The permit approved the discharge of secondary treated municipal waste water and allowed an unspecified quantity of primary treated wastewater to bypass secondary treatment at the facility before blending with the secondary treated effluent before discharge to Casco Bay, Class SC. The permit also authorized the discharge of untreated sanitary/storm water from 21 combined sewer overflow (CSO) structures to the Presumpscot River, Casco Bay, Back Cove, Portland Harbor and the Fore River. See **Attachment A** of the Fact Sheet for aerial photographs of the facility.

1. APPLICATION SUMMARY (cont'd)

b. Source Description: The permittee currently treats domestic, industrial, and commercial waste waters from the surrounding city and has the potential to accept flows from the Town of Falmouth by agreement. The permittee has significant industrial users currently contributing to the waste stream. The permittee has an approved pretreatment program developed in accordance with federal regulations found at 40 CFR Section 403. The largest categorical industrial user (CIU), based on flow and average BOD5 strength, is Oakhurst Dairy; the largest non-categorical significant industrial user (SIU), based on flow, is Ecomaine Landfill (landfill leachate); the largest non-categorical SIU, based on average BOD5 strength, is Shipyard Brewing.

The collection system does not have sufficient capacity to transport the volume of inflow and infiltration of water experienced during periods of rainfall and snow melt. The City of Portland ("City") and the permittee jointly operate and maintain the combined sewer collection system. The City owns and operates the sewer collection system and the permittee owns and operates the sewer interceptors and wastewater treatment facilities. The permittee has legal responsibility for 21 CSOs. During wet weather, the permittee is authorized to discharge untreated storm water/ sanitary waste water from the permitted CSOs to the Presumpscot River, Casco Bay, Back Cove, Portland Harbor and the Fore River. The waste water treatment facility is so configured as to maintain peak secondary treatment up to 36.8 MGD for short periods. If this sustained flow is exceeded, a CSO-related bypass can be activated onsite to allow for primary treatment and disinfection of the excess waste water up to 80 MGD (36.8 MGD through secondary plus 43.2 MGD through primary).

The permittee receives transported wastes which are directly introduced into the headworks. Currently the permittee receives only septic tank wastes. The permittee does not accept transported wastes when influent flows exceed 36.8 MGD. This permitting action is carrying forward the 24,000 gallons per day transported wastes limitation from the previous permitting action.

c. Waste Water Treatment: Influent flow to the wastewater treatment plant comes from two major pump stations, India Street Pump Station and Northeast Pump Station. These flows combine on-site and enter the headworks building where the influent is initially screened and grit is removed. The flow then enters a distribution box where it is measured via two sonic level detectors and then split among three separate treatment trains each consisting of a rectangular primary settling basin, an aeration basin, and a circular secondary clarifier. The secondary effluent then combines and is chlorinated with sodium hypochlorite in two chlorine contact basins, then dechlorinated with sodium bisulfite before being discharged to Casco Bay through an outfall pipe measuring 48 inches in diameter with diffusers. Primary sludge is

1. APPLICATION SUMMARY (cont'd)

thickened in two circular tanks before the sludge is pumped to a holding tank. The primary sludge is then blended with thickened waste activated sludge and conveyed to two rotary presses for dewatering. The solids are then hauled to a landfill or to a composting site by a contractor.

When the secondary flow rate reaches 25,600 gpm (36.8 MGD), a valve opens and diverts up to 43.2 MGD out of the primary effluent channel to the CSO-related secondary bypass. That bypassed flow is then chlorinated and dechlorinated in two chlorine contact chambers and combined with secondary treated effluent before discharging to a common outfall pipe designated as Outfall #001A. See **Attachment B** of this Fact Sheet for a schematic of the waste water treatment facility.

Since the previous permitting action, the permittee has completed the installation of liquid disinfection and dechlorination facilities and associated improvements to the control systems; updated the primary treated effluent control system, installed a new traveling rake screen at the headworks and upgraded the following pump stations as described: India Street Pump Station: installed an odor control system, modified the wetwell, added new pumps and drives, upgraded the electrical system and added new programmable logic controllers; Northeast Pump Station: replaced internal piping and valves, replaced the wetwell isolation gates and installed a new pump and drives; Thompson's Point Pump Station: replaced the force main. The permittee is in the process of replacing nine (9) secondary aeration system gates.

2. PERMIT SUMMARY

a. Terms and conditions: This permit carries forward all terms and conditions of the August 17, 2011, MEPDES permit/WDL except that this permit is;

1. Incorporating the average and maximum numeric concentration limits for total mercury that were originally established in a permit modification dated May 23, 2000.

2. Reducing the monitoring frequencies for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 5/Week to 3/Week and settleable solids from 1/Day to 5/Week based on a statistical evaluation of the most current 48 months of discharge monitoring data in accordance with U.S. Environmental Protection Agency (EPA) and Department guidance.

3. Eliminating all the terms and conditions of internal Outfall #001B (primary treated waste waters) as limiting an internal waste stream is not necessary given compliance with limitations in this permit are determined after the primary treated and secondary treated waste streams are blended.

4. Establishing numeric daily maximum mass limitations for BOD and TSS for Outfall #001C (blended effluent) based on statistical evaluation of data collected for former Outfall #001B.

2. PERMIT SUMMARY (cont'd)

5. Requiring the permittee to report the minimum instantaneous flow rate at the headworks of the waste water treatment facility at which time the CSO Related Bypass of secondary treatment is activated.

6. Establishing effluent monitoring and reporting requirements for total kjeldahl nitrogen (TKN), nitrate nitrogen plus nitrate nitrogen and total nitrogen.

7. Establishing Special Condition N entitled *Nitrogen*, requiring the permittee to submit an annual progress report to the Department that summarizes activities related to optimizing nitrogen removal efficiencies, documents the seasonal (May – October) daily average nitrogen discharge load from the facility and tracks trends relative to the previous year. The progress report must also contain a scope of work or tasks/measures to be taken in the next 12-month period to further reduce the nitrogen loading from the treatment facility.

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

May 23, 1991 – The USEPA issued a renewal of NPDES permit #ME0102075.

April 1995 – The permittee and USEPA entered into a Consent Order For Compliance (Docket #95-08). Corrective actions centered on CSOs and improvements to the treatment plant to maximize flows to the plant during wet weather events.

April 29, 1996 – The USEPA issued a letter to the permittee deeming their application for renewal of the NPDES permit complete for processing.

November 3, 1997 – The Department administratively modified the permittee's daily maximum fecal coliform bacteria limit from 15 colonies per 100 milliliters to 50 colonies per 100 milliliters to be consistent with the National Shellfish Sanitation Program.

May 23, 2000 – The Department administratively modified permittee's WDL by establishing interim average and maximum concentration limits of 35.3 part per trillion (ppt) and 53.0 ppt respectively, for mercury.

September 21, 2000 – The EPA issued a formal draft of NPDES permit renewal #ME0102075 for a 30-day comment period. The permit was never issued as a final document, therefore, the permittee has been operating the EEWTF pursuant to the terms and conditions the 5/23/91 permit and the 4/95 Consent Order.

December 8, 2000 – The Department issued WDL #W002671-5M-C-R for a five-year term.

April 11, 2002 – The permittee filed an application with the Department to modify and renew WDL #W002671-5M-C-R. The permittee requested the Department incorporate the terms and conditions of the MEPDES permitting program into the new MEPDES permit.

March 6, 2003 – The Department issued MEPDES permit #ME0102075/WDL #W002671-5M-E-M modification for a five-year term.

2. PERMIT SUMMARY (cont'd)

November 17, 2004 – The Department and permittee entered into a Consent Agreement to address past violations of former WDLs.

January 10, 2006 – The Department issued combination MEPDES Permit #ME0102075/WDL #W002671-5M-F-M for a five-year term.

September 5, 2008 – The Department modified WDL #002671-5M-F-M to reflect the elimination of Footnote #12, fecal coliform monitoring requirement, at Outfall #001B (primary treatment and disinfection). The modification was assigned WDL # W002671-5M-G-M.

August 17, 2011 – The Department issued MEPDES permit #ME0102075/WDL #W002671-5M-H-R for a five-year term.

February 6, 2012 – The Department issued a modification of the August 17, 2011, permit that reduced the monitoring frequency reduction for total mercury from 4/Year to 1/Year.

September 11, 2013 – The Department issued a modification to the August 17, 2011 permit that eliminated the limitations and monitoring requirements for inorganic and total arsenic based on an updated statistical evaluation that concluded the discharge no longer exceeded or had a reasonable potential to exceed the human health ambient water quality criteria for inorganic arsenic.

March 15, 2016 – The permittee submitted a timely and complete application to the Department for the renewal of MEPDES/WDL issued by the Department on August 17, 2011, for a five-year term.

c. Combined Sewer Overflows:

January 1991 - The permittee and the City of Portland (City) entered into an Administrative Consent Agreement and Enforcement Order with the Maine Board of Environmental Protection in order to address the discharge of untreated wastewater from the City's collection system through CSO's. The Consent Agreement set forth guidelines for the development and implementation of a long term program for evaluation and abatement of both permittee-maintained and City CSO discharges from their sewerage systems.

December 1993 - The permittee and City submitted a CSO Abatement Master Plan prepared by CH2M-Hill to the Department for review and approval. Approval of this plan was withheld pending more detailed project descriptions as well as design and construction schedules for the first two-to-three years of implementation. Among other recommendations, the CSO Abatement Master Plan called for pump station improvements and an increase in the waste water treatment plant flow capacity from 60 MGD to 80 MGD so that increased amounts of wet weather flow could be conveyed to and treated at the waste water treatment plant rather than being discharged untreated through CSOs. The Master Plan recommended that treatment plant flows up to 36.8 MGD receive full secondary treatment and that flows exceeding 36.8 MGD up to 80 MGD will be allowed to be bypassed to disinfection facilities following primary treatment.

2. PERMIT SUMMARY (cont'd)

c. Combined Sewer Overflows: (cont'd)

April 1995 - The permittee entered into a Consent Order For Compliance with the USEPA (Docket #95-08). This Consent Order established a schedule of compliance deadline for the design and completion of CSO abatement related upgrades to the East End WWTF and the India Street and Northeast Pump stations, including flume upgrade, increasing primary bypass piping size, and installation of high rate disinfection and mixing equipment and controls. The Consent Order also set forth interim CSO-related bypass monitoring conditions including monitoring of the primary bypass effluent and calculating a combined secondary and primary effluent. The upgrades specified in the Consent Order have been completed.

January 1997 - A revised five-year CSO Abatement Plan and Schedule for the years 1997 through 2001, prepared by DeLuca-Hoffman Associates, Inc., was submitted to the Department. This plan together with the original CSO Master Plan was approved by both the USEPA and the Department on June 25, 1997.

July 3, 1997 - On behalf of the City, the permittee submitted the *Portland 1997 CSO Monitoring Plan*, which was approved by the Department.

May 31, 2005 – As required by the 11/17/04 Consent Agreement, the permittee submitted a report to the Department entitled, Operational Assessment Investigation and Improvement Plan For The East End Wastewater Treatment Facility.

May 2, 2011 – The Department, Maine Attorney General and the permittee entered into an Administrative Consent Agreement (EIS#2011-002-W) to resolve violations of the permittee's WDLs that occurred between August 3, 2004 and February 28, 2011.

3. CONDITIONS OF PERMITS

Conditions of Licenses, 38 M.R.S Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain Deposits and Discharges Prohibited,* 38 M.R.S. Section 420 and *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005), 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 October 9, 2005), 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., Section 465-B, states that Casco Bay, Back Cove, Fore River, Presumpscot River and Portland Harbor, all of which are Class SC. Maine law 38 M.R.S. Section 465-B establishes the standards for Class SC waters as follows:

Class SC waters must be of such quality that they are suitable for recreation in and on the water, fishing, aquaculture, propagation and restricted harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as a habitat for fish and other estuarine and marine life.

The dissolved oxygen content of Class SC waters must be not less than 70% of saturation. Between May 15th and September 30th, the numbers of enterococcus bacteria of human and domestic animal origin in these waters may not exceed a geometric mean of 14 per 100 milliliters or an instantaneous level of 94 per 100 milliliters. In determining human and domestic animal origin, the department shall assess licensed and unlicensed sources using available diagnostic procedures. The numbers of total coliform bacteria or other specified indicator organisms in samples representative of the waters in restricted shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration.

Discharges to Class SC waters may cause some changes to estuarine and marine life provided that the receiving waters are of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

5. RECEIVING WATER QUALITY CONDITIONS

Table Category 4-A entitled, *Estuarine and Marine Waters Impaired Use. TMDL Completed* in a document entitled, State of Maine Department of Environmental Protection 2012 Integrated Water Quality Monitoring and Assessment Report State of Maine, lists 20.42 square miles of the Portland-Falmouth area (DMR area #14, Waterbody ID #804-1) Class SB/SC as impaired by elevated fecal bacteria levels Attainment in this context is in regard to the designated use of harvesting of shellfish. A total maximum daily load (TMDL) was completed in calendar year 2009.

Currently, DMR shellfish harvesting area #14 is closed to the harvesting of shellfish due to insufficient (limited) ambient water quality data to meet the standards in the National Shellfish Sanitation Program. Therefore, area #14 remains closed. Compliance with the year-round fecal coliform bacteria limits in this permitting action which are being carried forward from the previous licensing action ensures that the permittee will not cause or contribute to the shellfish harvesting closure.

In addition, (DMR area #14, Waterbody ID #804-1) is listed in Table 5-D entitled, *Estuarine and Marine Waters Impaired by Legacy Pollutants*. The report indicates all estuarine and marine waters capable of supporting American lobster are listed in Category 5-D for shellfish consumption due to elevated levels of PCBs and other persistent bioaccumulating substances in tomalley. The Department has no information that the discharge from the East End facility is causing or contributing to this impairment.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

1. Flow – In the previous permit, the Department established a monthly average, weekly average and daily maximum "report" only requirement for flow. This was due to the fact that the permittee historically violated its monthly average flow limitation because it was required to treat a minimum of 36.8 MGD through the secondary treatment portion of the treatment facility during wet weather events. The facility has treated flows well in excess of the dry weather flow design capacity of 19.8 MGD for the facility for extended periods of time resulting in violations of the flow limit. Regulating the discharge in this manner in no way shall be construed to represent any change to the 19.8 MGD dry weather design loading criteria of the waste water treatment facility.

The review of the Discharge Monitoring Reports (DMRs) submitted to the Department for the period January 2012 – November 2015 indicates values have been reported as follows:

Flow (n=37)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	Report	12.6 – 24.3	16.9
Weekly Average	Report	13 – 31.7	20.6
Daily Maximum	Report	16.3 - 38	29.5

2. Dilution Factors - *Surface Water Toxics Control Program*, 06-096 CMR 530§4(2)(a) [effective date October 9, 2005] states that for discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.

   In 1996, a dye study was performed by Camp Dresser and McKee, but due to certain water column stratification problems occurring during the dye study, the results were not conclusive. Camp Dresser and McKee performed another dilution study in 1997, and published the results in their May 1998 Report, *Dilution Study--Portland Water District Wastewater Treatment Facility Outfall.*

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

The Department reviewed the Camp Dresser and McKee (CDM) report as part of the 12/08/00 WDL renewal and has used their findings to make a determination of the applicable dilutions for the East End facility. Based on adjustments to the findings in the CDM report on file with the Department and a more recent statistical analysis of the flows discharged by the treatment facility, the Department has determined the discharge is diluted by the following factors:

Acute = 21:1 Chronic = 41:1 Harmonic mean [(1)] = 123:1

Footnote:

(1) Pursuant to 06-096 CMR 530§4(2)(c), the harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by a factor of three (3).

3. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): The previous permit contained monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that were based on secondary treatment requirements in 06-096 CMR 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action with the exception of the daily maximum concentration limits of 50 mg/L during bypass of secondary treatment events. See page 32 of this Fact Sheet for a more in-depth discussion.

As for mass limitations, this permitting action is carrying forward the monthly average and weekly average limitations based on a monthly average design flow of 19.8 MGD.

The limitations were calculated as follows:

Monthly average = (30 mg/L) (19.8 MGD) (8.34) = 4,954 lbs/day
Weekly average = (45 mg/L) (19.8 MGD) (8.34) = 7,431 lbs/day

No daily maximum mass limitations (report only) for BOD5 or TSS were established in the previous permitting action as doing so may discourage the permittee from treating as much waste water through the secondary treatment system as possible during wet weather events.

A review of the DMR data for the period January 2012 – November 2015 indicates the monthly average and daily maximum mass and concentration values for BOD5 & TSS have been reported as follows:

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

BOD_5 Mass (DMRs = 47)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	4,954	1,296 – 3,143	2,237
Weekly Average	7,431	1,820 – 4,941	3,073
Daily Maximum	Report	3,032 – 12,831	6,073

BOD_5 Concentration (DMRs = 47)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	9 - 24	16
Weekly Average	45	11 - 38	20
Daily Maximum	50	16 - 65	35

TSS mass (DMRs = 47)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	4,954	658 – 2,961	1,614
Weekly Average	7,431	821 – 4,972	2,476
Daily Maximum	Report	1,252 – 15,300	5,485

TSS concentration (DMRs = 47)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	30	6 - 19	11
Weekly Average	45	7.4 - 27	16
Daily Maximum	50	10 - 72	31

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 EPA 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 EPA's 1996 Guidance recommends evaluation of the most current two years of effluent data for a parameter, the Department is considering 47 months of data (January 2012 – November 2015). A review of the mass monitoring data for BOD & TSS indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as 45% for BOD and 32% for TSS. According to Table I of the EPA Guidance and Department Guidance, a 5/Week monitoring requirement can be reduced to 3/Week. Therefore, this permitting action is reducing the monitoring frequency for BOD and TSS from 5/Week to 3/Week.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Should the facility experience operational problems resulting in significant non-compliance, or subsequent enforcement, then the Department reserves the right to reopen the permit and revoke the testing reductions that have been granted.

This permitting action is carrying forward a monthly average percent removal requirement of 85 percent for BOD_5 and TSS as required pursuant to 06-096 CMR 525(3)(III)(a&b)(3) for all flows receiving secondary treatment. A requirement to achieve 85% removal at all times at facilities with combined sewers is not attainable due to the complexity of the sewer systems and the highly variable influent concentration. The Department is carrying forward a waiver on the percent removal requirement when the monthly average influent strength is less than 200 mg/L given the collection system is still a combine sewer system with an active CSO outfalls.

A reviewed of the monthly DMRs data for the period January 2012 – November 2015 indicates values have reported as follows:

BOD % Removal (DMRs=47)

Value	Limit (%)	Range (%)	Average (%)
Monthly Average	85	89 - 96	93

TSS % Removal (DMRs=47)

Value	Limit (%)	Range (%)	Average (%)
Monthly Average	85	91 - 97	94

4. Settleable Solids: This permitting action is carrying forward a daily maximum settleable solids concentration limit of 0.3 mL/L and is considered by the Department as a best professional judgment of BPT for secondary treated waste waters.

A review of the DMR data for the period January 2012 – November 2015 indicates the daily maximum settleable solids concentration values have been reported as follows:

Settleable solids concentration (n=47)

Value	Limit (ml/L)	Range (ml/L)	Average (ml/L)
Daily Maximum	0.3	<0.1 – 1.8	1.5

A review of the monitoring data for settleable solids indicates the ratios (expressed in percent) of the long term effluent average to the daily maximum limit can be calculated as 50%. According to Table I of the EPA Guidance and Department Guidance, a 1/Day monitoring requirement can be reduced to 5/Week. Therefore, this permitting action is reducing the monitoring frequency for settleable solids from 1/Day to 5/Week.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

5. Fecal coliform bacteria – This permitting action is carrying forward year-round monthly average and daily maximum fecal coliform bacteria limits of 15 colonies/100 mL and 50 colonies/100 mL, respectively. The limits are based on the Water Classification Program criteria for the receiving waters (including standards in the National Shellfish Sanitation Program) and require application of the best practicable treatment.

   A review of the DMR data for the period January 2012 – November 2015 indicates the monthly average and daily maximum values have been reported as follows:

   Fecal coliform bacteria (DMRs=47)

Value	Limit (col/100 ml)	Range (col/100 ml)	Average (col/100 ml)
Monthly Average	15	2 – 31	5
Daily Maximum	50	2 – 1,680	99

   This permitting action is carrying forward the 5/Week fecal coliform bacteria monitoring requirement from the previous permitting action given the permittee has reported 29 excursions of the limitations during said evaluation period.

6. Total Residual Chlorine (TRC): The monthly average and daily maximum TRC limitations and monitoring requirements in the previous permit are being carried forward in this permitting action. Limits on total residual chlorine are specified to ensure attainment of the in-stream water quality criteria for levels of chlorine and that the best practicable treatment technology is utilized to abate the discharge of chlorine. Total residual chlorine limits are based on the State's acute and chronic ambient water quality criteria for marine waters (0.013 mg/L and 0.0075 mg/L, respectively) and the applicable dilution factors of 21:1 (acute) and 41:1 (chronic) respectively.

   Calculated water quality-based thresholds for TRC as follows:

   Maximum Daily = (marine acute criteria)(acute dilution)
   = (0.013 mg/L)(21) = **0.27 mg/L**

   Monthly Average = (marine chronic criteria)(chronic dilution)
   = (0.0075 mg/L)(41) = **0.31 mg/L**

   To meet the water quality based limits calculated above, the permittee must dechlorinate the effluent prior to discharge. The Department has established a daily maximum best practicable treatment limitation of 0.3 mg/L for facilities that need to dechlorinate their effluent unless calculated water quality based limits are lower than 0.3 mg/L. This

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

permitting action is carrying forward the daily maximum water quality based TRC limitation of 0.27 mg/L from the previous permitting action as the water quality-based limit of 0.27 mg/L is lower than the technology-based limit of 0.3 mg/L. As for the monthly average limitation, the Department's best practicable treatment limitation is 0.1 mg/L. Being that the calculated water quality based limit is higher than 0.1 mg/L, the best practicable treatment limitation is being carried forward from the previous permitting action.

A review of the DMR data for the period January 2012 – November 2015 indicates the monthly average and daily maximum TRC concentration values have been reported as follows:

Total residual chlorine (DMRs=47)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	0.1	0 – 0.10	0.020
Daily Maximum	0.27	0.04 – 0.20	0.10

The Department's recently adopted policy on monitoring frequency reductions does not provide reductions for water quality-based limitations. Therefore, the monitoring frequency of 2/Day for total residual chlorine is being carried forward in this permitting action.

7. pH: This permitting action is carrying forward the BPT-based pH daily maximum limits of 6.0 – 9.0 standard units pursuant to 06-096 CMR 525(3)(III)(c).

A reviewed of the monthly DMRs data for the period January 2012 – July 2015 indicates values have reported as follows:

pH

Value	Limit (su)	Minimum (SU)	Maximum (su)
Range	6.0 – 9.0	6.4	7.7

This permit is carrying forward the 1/Day monitoring frequency from the previous permit.

8. Mercury: On May 23, 2000, pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420, *Waste discharge licenses*, 38 M.R.S. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001), the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W002671 by establishing interim monthly average and daily maximum effluent concentration limits of 35.3 parts per trillion (ppt) and 53.0 ppt, respectively, and a minimum monitoring frequency requirement of four (4) tests per year for mercury. On February 6, 2012, the

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Department issued a minor revision to the July 24, 2008, permit thereby revising the minimum monitoring frequency requirement from four times per year to once per year pursuant to 38 M.R.S. § 420(1-B)(F). It is noted the limitations have been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit.

38 M.R.S. § 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 reviewed of the data for the period January 2012 – November 2015 indicates values have reported as follows:

Mercury (n=11)

Value	Limit (ng/L)	Range (ng/L)	Mean (ng/L)
Monthly Average	35.3	1.34 – 5.6	4.3
Daily Maximum	50.0		

Pursuant to 38 M.R.S. §420(1-B)(F), this permitting action is carrying forward the 1/Year monitoring frequency established in the February 6, 2012, permit modification.

9. Whole Effluent Toxicity (WET) & Chemical-Specific Testing: 38 M.R.S., § 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. 06-096 CMR 530 and 06-096 CMR 584 set 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 are included in this permit in order to fully characterize the effluent. This permit also 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.

   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. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health AWQC as established in 06-096 CMR 584.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

06-096 CMR 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

1) Level I – chronic dilution factor of <20:1.
2) Level II – chronic dilution factor of ≥20:1 but <100:1.
3) Level III – chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD
4) Level IV – chronic dilution factor >500:1 and Q ≤1.0 MGD

Based on the criteria, the permittee falls into the Level II frequency category as the permittee has a chronic dilution factor ≥20:1 but <100:1.

06-096 CMR 530 (D)(1) specifies that routine screening and surveillance level testing requirements are as follows:

Surveillance level testing – Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit).

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	1 per year	None required	2 per year

Screening level testing – 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.

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	2 per year	1 per year	4 per year

See **Attachment C** of this Fact Sheet for a summary of the WET test results and **Attachment D** of this Fact Sheet for a summary of the chemical-specific test dates.

06-096 CMR 530 (3)(c) states, in part, *Dischargers in Level II may reduce surveillance testing to one WET or specific chemical series every other year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).*

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

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.*"

06-096 CMR 530 (3) states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

WET evaluation

On 4/11/16, the Department conducted a statistical evaluation on the most recent 60 months of WET data. The evaluation indicates that a test result of 1.0% on 9/8/14 for the sea urchin exceeds the critical chronic ambient water quality threshold of 2.4% (the mathematical inverse of the chronic dilution factor of 41:1). However, the permittee has provided the Department with documentation from the laboratory that conducted the test stating the test was invalid. Therefore, the result remains in the Department's database but has been flagged to be excluded from statistical evaluations. The WET statistical evaluation without the invalid test result indicates the discharge does not exceed or have a reasonable potential to exceed the critical chronic water quality threshold of 2.4% (the mathematical inverse of the acute dilution factor of 41:1. As a result, As a result, this permitting action is carrying forward the reduced surveillance monitoring frequency of once every 2 years (1/2 Years) for the sea urchin.

The WET statistical evaluation indicated the discharge does not exceed or have a reasonable potential to exceed the critical acute water quality threshold of 4.8% (the mathematical inverse of the acute dilution factor of 21:1). As a result, this permitting action is carrying forward the reduced surveillance monitoring frequency of once every 2 years (1/2 Years) for the mysid shrimp.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

In summary, this permitting action is establishing surveillance level WET testing as follows.

Surveillance level testing – Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit).

Level	WET Testing
II	Sea urchin – 1 per 2 years
II	Mysid shrimp – 1 per 2 years

Pursuant to 06-096 CMR 530 (1)(D), screening level testing is being carried forward as follows:

Screening level testing – 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.

Level	WET Testing
II	2/Year

06-096 CMR 530 (2)(D)(4) states *All dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.*

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

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

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

Special Condition I of this permit establishes, *06-096 CMR 530(2)(D)(4) Statement For Reduced/Waived Toxics Testing.* This permit provides for reconsideration of testing requirements, including the imposition of certain testing in consideration of the nature of the wastewater discharged, existing wastewater treatment, receiving water characteristics, and results of testing. An example certification statement is included as **Attachment E** of this Fact Sheet.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

If future WET or other chemical specific test results indicates the discharge exceeds critical water quality thresholds or AWQC, this permit will be reopened pursuant to Special Condition P, *Reopening of Permit For Modification*, of this permit to establish applicable limitations and monitoring requirements.

Chemical specific testing evaluation

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.*"

06-096 CMR 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

Chapter 530 §4(C), states "*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions." The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations.* The Department has very limited information on the background levels of metals in the water column in Casco Bay. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

06-096 CMR 530 4(E), states, "*In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity*". However, the Department's policy is not to hold the reserve of 15% for dischargers to marine waters given the significant far field dilution and distance between dischargers.

06-096 CMR 530 §(3)(E) states "*... 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 4/11/16, the Department conducted a statistical evaluation on the most current 60 months of analytical chemistry and priority pollutant test results on file with the Department in accordance with the statistical approach outlined in 06-096 CMR 530. The statistical evaluation indicates the discharge from the East End facility does not have any pollutants tested to date that exceed or have a reasonable potential to exceed applicable AWQC.

06-096 CMR 530 (2)(D)(3)(c) states "*Dischargers in Level II may reduce surveillance testing to one WET or specific chemical series every other year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).*" The Department has determined that the permittee qualifies for the reduction in analytical chemical testing. Therefore, this permitting action is carrying forward reduced surveillance level analytical chemistry and priority pollutant testing as follows:

Surveillance level testing – Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit).

Level	Priority pollutant testing	Analytical chemistry
II	N/A	1 per 2 years

Special Condition I, *06-096 CMR 530 (2)(D)(4) Statement for Reduced/Waived Toxics Testing,* of this permitting action requires the permittee to file an annual certification with the Department.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Pursuant to 06-096 CMR 530 (1)(D), screening level testing is being carried forward as follows:

Screening level testing – 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.

Level	Priority pollutant testing	Analytical chemistry
II	1 per year	1 per quarter

It is noted however that if future chemical testing results indicate the discharge exceeds any of the acute, chronic or human health ambient water quality criteria established in 06-096 CMR 584, this permit will be reopened pursuant to Special Condition O, *Reopening of Permit For Modifications*, to establish applicable limitations and monitoring requirements.

10. Total Nitrogen: The USEPA requested the Department evaluate the reasonable potential for the discharge of total nitrogen to cause or contribute to non-attainment of applicable water quality standards in marine waters, namely dissolved oxygen (DO) and marine life support. The permittee voluntarily 1) participated in a Department-coordinated project to measure effluent nitrogen and submitted a total of six samples from May-October, 2008, and 2) collected and analyzed (not by a certified laboratory) an additional 19 test results for total nitrogen between May and October of 2013-2016. The mean value of the permittee's 19 seasonal total nitrogen test results was 15.7 mg/L. For this reasonable potential evaluation, the Department considers 15.7 mg/L to be representative of total nitrogen discharge levels from the Portland Water District East End facility.

With the exception of ammonia, nitrogen is not acutely toxic; thus, the Department is considering a far-field dilution to be more appropriate when evaluating impacts of total nitrogen to the marine environment. The hydraulic conditions at the East End outfall are more complex and more dynamic than most marine discharge locations. These unique characteristics help to maximize far-field mixing to the practical extent possible. It would be very difficult to find another discharge location with comparable far-field mixing opportunities. The relative complexity of the site also makes it significantly more difficult to model, and not conducive to the conventional embayment modeling that the Department has conducted for other marine discharges. What makes this particular discharge so unique is that it is located off the end of a peninsula, with three tidal embayment's (Presumpscot River, Back Cove, and the Fore River) that all converge within an approximate one mile

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

radius of the discharge. Additionally, there is a general filling and emptying current that persists from the outer portion of Casco Bay to the inner portion of Casco Bay (along the Falmouth shoreline). Based on these factors there is almost no potential for localized nutrient related influences to persist at times scales greater than just a few hours.

The far-field dilution factor for the East End discharge as modeled by the Department has been determined to be approximately 1,970:1. This dilution factor was determined by quantifying the relative tidal prism associated with the Fore River, Back Cove, the Presumpscot River, and a small portion of inner Casco Bay in the Falmouth vicinity. This tidal prism is flushed past the East End discharge twice per day with a mean tidal prism of 9.1 feet.

Tidal Prism Volume = 2,609,710,000 ft^3 x 2 (two times per day)
Discharge Flow Rate= 19.8 MGD x 133680.555 (convert to cubic feet)

$$\frac{5{,}219{,}420{,}000 \text{ cubic feet per day}}{2{,}646{,}875 \text{ cubic feet per day}} = 1{,}970{:}1$$

Total nitrogen concentrations in effluent = 15.7 mg/L
Far-field dilution factor = 1,970:1

$$\text{In-stream concentration after dilution: } \frac{15.7 \text{ mg/L}}{1{,}970} = 0.008 \text{ mg/L}$$

The USEPA and Friends of Casco Bay have questioned the Department's use of the far field modeling and suggested the Department seek an independent person or entity to conduct modeling or review the use of the Department's far field dilution model. The Department has and will continue to consult with an experienced modeler associated with the University of Maine and the Sea Grant Program regarding hydrodynamic modeling of Casco Bay. This modeler, as well as a modeler for the permittee, have stated the Department's modeling to date is reasonable given the limited information on the hydrodynamics of Casco Bay. The Department considers the modeling to date to be preliminary and much more information needs to be collected to refine the model. The Department is preparing a plan to conduct ambient water quality data collection beginning in calendar year 2017.

As of the date of this permitting action, the State of Maine has not promulgated numeric ambient water quality criteria for total nitrogen. According to several studies in USEPA's Region 1, numeric total nitrogen criteria have been established for relatively few estuaries, but the criteria that have been set typically fall between 0.35 mg/L and 0.50 mg/L to protect marine life using dissolved oxygen as the indicator. While the thresholds are site-specific, nitrogen thresholds set for the protection of eelgrass habitat range from 0.30 mg/L to 0.39 mg/L.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Based on studies in USEPA's Region 1 and the Department's best professional judgment of thresholds that are protective of Maine water quality standards, the Department is utilizing a threshold of 0.45 mg/L for the protection of aquatic life in marine waters using dissolved oxygen as the indicator, and 0.32 mg/L for the protection of aquatic life using eelgrass as the indicator. Given the history of extensive eelgrass coverage in the shallows surrounding the East End discharge (see text below and Figure 1), the use of 0.32 mg/L as a threshold value is appropriate for this estuary. Five known surveys have been completed within the vicinity of the East End facility to document presence/absence of eelgrass. The first occurred in the 1970's by Timson of the Maine Geological Survey, the second (1993) and third (2001) by the Maine Department of Marine Resources (DMR), and fourth (2013) and fifth (2014) as coordinated by the Department. The 2014 survey only consisted of mapping of the beds immediately to the south of Mackworth Island, which is located approximately 0.6 km to the north of the discharge point.

The 1970's Timson survey noted the presence of eelgrass flats in several locations in close proximity to the discharge point. The closest beds are noted immediately to the landward side of the discharge ("East End"), extensive eelgrass cover was mapped on either sides of the Presumpscot River estuary channel and especially throughout the shallow subtidal zone to the south of Mackworth Island ("South of Mackworth Island"), and fringing beds were mapped to the east surrounding Fort Gorges ("Fort Gorges") and along the shoreline of Great Diamond and Little Diamond Islands. In 1993, higher resolution mapping delineated eelgrass in the same areas as the Timson survey, with the exception of the Presumpscot River estuary channel. Distribution of eelgrass remained very similar to 1993 in later mapping efforts (2001, 2013 and 2014 (Mackworth Island beds only)). The table below indicates eelgrass aerial coverage based on the DMR and DEP-coordinated surveys at the three areas that fall within 2 km of the discharge point.

Table 1. Mapped eelgrass acreage in proximity to East End discharge point, with closest mapped eelgrass distance provided in headers.

	East End (0.1 km)	**South of Mackworth Island (0.6 km)**	**Fort Gorges (1.2 km)**
1993	29.16 ac	94.42 ac	20.09 ac
2001	30.15 ac	105.69 ac	30.15 ac
2013	32.18 ac	84.79 ac	25.04 ac
2014	n/a	88.30 ac	n/a

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Based on Table 1 eelgrass acreage, the amount of eelgrass has remained rather constant at the areas in proximity to the outfall, with some variability that is likely reflective of natural fluctuations as well as differences in mapping methods per survey. In terms of eelgrass cover, the cover class of eelgrass in deeper water at "East End" decreased from 40-70% cover (1993) to 0-10% cover (2001, 2013). Within the beds "South of Mackworth Island", the deeper areas of eelgrass exhibited a constant or slightly increased percent cover from 1993 through the 2014 survey. Surrounding "Fort Gorges", the eelgrass percent cover in the deeper areas increased on the west side of the island and decreased on the east side. In summary, for these three areas of mapped eelgrass, there is neither apparent landward migration of eelgrass from the deep edges of the patches nor consistent thinning of the beds, both of which may be indicative of water column light attenuation that is limiting for eelgrass survival.

The relative consistency of eelgrass acreage and percent cover at the beds surrounding the East End discharge point is unique from many other areas of Casco Bay that experienced drastic loss of eelgrass between 2001 and 2013. Losses elsewhere in Casco Bay were largely attributed to mechanical impacts of green crab foraging, which motivated Department enumeration of green crabs and measurement of water column light attenuation in five study areas around Casco Bay in 2014. One of the five study areas was the large eelgrass bed to the south of Mackworth Island, which was also the focus of high resolution eelgrass health assessments during June and September 2014 by the U.S. Geological Survey, with support from the Department.

Based on light attenuation data from June-October 2014, approximately 15-20% of surface light irradiance was present along the deep edge of the eelgrass beds to the "South of Mackworth Island". 15-20% of surface irradiance is at the lower end of levels expected to be sufficient for eelgrass proliferation, and so it is possible that eelgrass has persisted at similar maximum depths through the 1993, 2001, 2013 and 2014 surveys because eelgrass has been consistently light limited at these depths. It is notable that within the bed "South of Mackworth Island", surface sediments are very fine and easily prone to resuspension, which could result in tide- and wind-driven turbidity that could affect eelgrass distribution and percent cover. Qualitatively, a heavy layer of fine sediment and diatom cover on eelgrass was coincidentally observed "South of Mackworth Island" in 2014. The eelgrass epiphytes at Mackworth Island differed from the four other Casco Bay sites by being more heavily fouled with this microscopic layer as well as macroalgal epiphytes. Epiphyte cover at this site is indicative of an enriched environment.

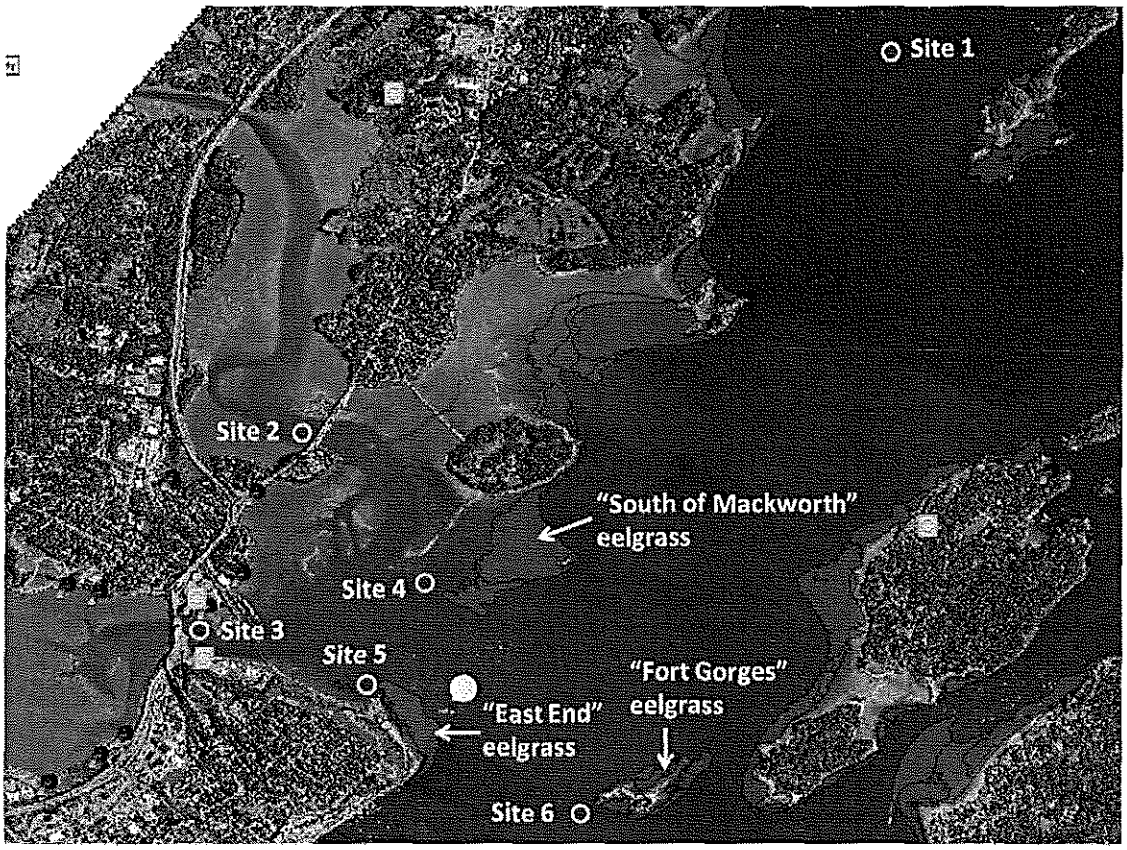
The Department and external partners have been collecting ambient total nitrogen data along Maine's coast. For the vicinity of the East End discharge point, the Department calculated a mean background concentration of 0.32 mg/L (n=106) based on surface water data collected at six sites (Figure 1, Table 2) in proximity to the discharge location. Since sampling has occurred at these six sites independent of tide stage and weather events, data

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

from these sites are considered representative of background total nitrogen concentrations in the lower Casco Bay area near the mouth of the Presumpscot River in the relative absence of East End discharge influence. Based on the calculated ambient value for this receiving water, the estimated increase in ambient total nitrogen after reasonable opportunity for mixing in the far-field is 0.32 mg/L + 0.008 mg/L = 0.328 mg/L. The in-stream concentration value of 0.328 mg/L is essentially equivalent to the Department and USEPA's best professional judgment based total nitrogen threshold of 0.32 mg/L for the protection of aquatic life using eelgrass as an indicator.

Figure 1. Monitoring sites (red symbols) in proximity to East End outfall (yellow symbol). Green polygons show 2013 mapped eelgrass.



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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Table 2. Monitoring sites in proximity to East End outfall and total nitrogen summary statistics.

Site #	Site Name (Monitoring Organization)	Data Collection Years	Total Nitrogen (mg/L)			
			n	min.	max.	mean
1	Clapboard Island (FOCB)	2007-2014	40	0.18	0.58	0.28
2	Lower Presumpscot Estuary (FOCB for DEP)	2013	2	0.33	0.33	0.33
3	Back Cove (FOCB for DEP)	2013	2	0.25	0.40	0.33
4	Mackworth Island (DEP)	2013	1	0.28	0.28	n/a
5	East End Beach (FOCB)	2009-2012	16	0.28	1.03	0.41
6	Fort Gorges (FOCB)	2007-2014	45	0.12	0.7	0.33

Since the calculated in-stream total nitrogen value is essentially equivalent to the relevant threshold value, the Department plans to pursue additional water quality, nutrient and biological indicator monitoring with distance from the outfall on many tide and weather scenarios before the subsequent permit renewal. These additional data will be used to refine the hydrodynamic model and far field dilution calculations referenced above. Eelgrass beds surrounding the discharge, as noted above, will be focus areas for the ambient monitoring effort, as will laboratory-analyzed water column chlorophyll *a* concentrations. Of the sites whose data were used for background assessments (Fig. 1), water column chlorophyll data indicative of microalgal biomass are largely from sonde sensors. Sonde sensor data from 2007-2014 (n=119) revealed neither a relationship between surface chlorophyll and surface total nitrogen values, nor these two variables and salinity. Only two surface water grab samples have been laboratory analyzed for chlorophyll *a*, and originate from the mouth of the Presumpscot River within two hours following high tide during August and November 2013. These two low chlorophyll *a* values (2.86 and 1.30 µg/L) were paired with below average total nitrogen values of 0.28 and 0.29 mg/L that are reflective of Casco Bay water with possible influence from the East End discharge given spatial proximity.

On July 26, 2016, the Department's chief marine biologist met with water quality assessment personnel from the USEPA and Friends of Casco Bay to review the data cited above to determine if additional data collection was necessary to more accurately assess the impact (or lack thereof) of the East End discharge on nitrogen levels and impacts to eelgrass beds. The consensus was that additional ambient nitrogen data and additional environmental assessments of the eelgrass beds are necessary and is tentatively scheduled to begin during the summer of 2017.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

Given ambient monitoring results in Table 2 on page 25 of this Fact Sheet indicating ambient total nitrogen concentrations are at or about the critical threshold concentration for the protection of eelgrass, Special Condition N, *Nitrogen,* of this permit takes an adaptive management approach to reducing the discharge of total nitrogen from the East End waste water treatment facility by requiring an evaluation of alternative methods of operating the existing wastewater treatment facility in order to control total nitrogen levels. The evaluation shall include, but not be limited to, operational changes designed to enhance de-nitrification (seasonal and year-round), incorporation of anoxic zones, transported waste receiving policies and procedures and side stream management. The permit also requires implementation of optimization methods sufficient to ensure that there is no increase in total nitrogen compared to the existing average daily seasonal load, and submittal of annual reports that summarize progress and activities related to optimizing nitrogen removal efficiencies, document the seasonal nitrogen discharge load from the facility, and track trends relative to previous years. The permittee anticipates a reduction in the discharge of total nitrogen from the facility ranging from 20%-40% during the five-year term of this permit.

Based on monthly seasonal effluent data (May – October) from the East End waste water treatment facility collected by the PWD for the years 2013, 2014 and 2015, the Department has calculated an existing seasonal daily average mass load of 2,437 lbs/day for total nitrogen. This represents the 95th percentile of 18 test results reported to the Department.

It is noted the facility is currently undergoing an upgrade of the aeration system that is scheduled to be completed in late spring or early summer of 2017. This permit requires the permittee to monitor the effluent from the East End waste water treatment facility for total kjeldahl nitrogen, nitrate –nitrogen and nitrite-nitrogen as well as report the total nitrogen for each month during the period May 1st – October 31st of each year beginning calendar year 2018. The summer of 2017 is considered a startup period for the new aeration system and gathering data during this time of flux in the system will not be representative of the performance of the new system. The intent of the nitrogen optimization effort is to achieve an anticipated 20% - 40% reduction of the current estimated seasonal loading of 2,437 lbs/day for total nitrogen. The annual progress report required by Special Condition N, *Nitrogen*, of this permit will document will document these efforts and will report on the seasonal loading of total nitrogen for the prior year.

The permittee has also agreed to coordinate with the Department and other non-governmental organizations in additional ambient water quality sampling and other environmental assessments tentatively scheduled to begin during the summer of 2017 in an effort to more accurately identify the source(s) of nitrogen loading to Casco Bay.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

In addition to requiring an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize nitrogen removal efficiencies, the permittee has agreed to coordinate with the City of Portland in Integrated Planning efforts to identify efficiencies in implementing sometimes overlapping and competing regulatory requirements associated with waste water and storm water programs. Integrated Planning can assist the City of Portland and the PWD in prioritizing cost effective and water quality protective solutions by maximizing their infrastructure improvement dollars through the appropriate sequencing of work.

Based on the reasonable potential calculations on page 21 of this Fact Sheet using facility-specific effluent and available ambient data, and in the absence of any information that the receiving water is not attaining standards, the Department is making a best professional judgment determination that the discharge of total nitrogen from the East End facility does not exhibit a reasonable potential to exceed applicable water quality standards for Class SC waters.

11. Transported Wastes - 06-096 CMR Chapter 555, *Standards For The Addition of Transported Wastes to Wastewater Treatment Facilities*, 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. A facility may receive more than 1% of the design capacity on a case-by-case basis.

    The permittee's previous permit contained transported waste limits that are being carried forward in this permitting action and are based on mass loadings of total suspended solids (TSS) and biochemical oxygen demand (BOD5). It is usually the practice to represent permitted transported waste conditions as volume in gallons per day based on actual mass loadings projections. For documentation purposes, this Fact Sheet is incorporating the following language from the December 2000 Waste Discharge License.

    In the expired license, the septage was limited to 8000 lbs/day of TSS and 4000 lbs/day of BOD, and no flow amount was specified. In back-calculating to obtain flow, two different flow limits can be derived. In this evaluation, the TSS loadings represent the most limiting factor and thus the 8000 lbs/day TSS loadings was used to calculate the recommended flow. The calculations were based on measured average mass concentrations for the East End WWTF calculated by the District: TSS = 20728 mg/L; BOD = 5925 mg/L. Using the TSS mass loading of 8000 lbs/day results in a calculated septage volume of approximately 46,000 gallons per day.

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

a. OUTFALL #001A - Secondary Treated Effluent: [See Special Condition A(1)]

However, facility influent average BOD and TSS mass loadings are exceeding design influent loadings, based on data from the 1999 reporting year. The District may be found in violation of Department Rule Chapter 555, "Standards for Addition of Septage to Wastewater Treatment Facilities," if addition of septage has an adverse effect on sludge disposal practices or causes any design parameter of the facility to be exceeded. In the opinion of the Department, the recommended 46,000 gallons per day of septage, if received on a daily basis would greatly impact the facility both in maintaining secondary treatment and in keeping pace with sludge processing and removal. The District reported an average of 80,104 gallons per month of septage received at the East End WWTF during 1999. The District on average accepted approximately 4000 gallons per day in 1999, based on a five day work week, with a maximum septage receipt of 24,000 gallons on one day during September 1999. The District has maintained excellent removal rates at the East End WWTF and is in compliance with its secondary effluent limits. Based on these findings, the Department recommends setting a limit of 24,000 gallons per day of septage being introduced into the treatment process. This septage volume shall be contingent upon the District maintaining good removal rates and not incurring any sludge handling problems at the East End WWTF.

This permit is carrying forward the limitation of 24,000 gpd which represents 0.12% of the design capacity of the waste water treatment facility.

b. OUTFALL #001B - Primary Treated and Disinfected Waste Waters
[See Special Condition A(4)]

Based on conditions imposed by the USEPA Consent Order dated April 1995, influent flow greater than the peak secondary flow rate of 25,600 gpm (36.8 MGD) is allowed to be diverted through the CSO related bypass of secondary treatment and be chlorinated and dechlorinated after receiving primary treatment. The total treatment capacity of the treatment facility is 55,600 gpm (80 MGD). The primary treatment capacity is 30,000 gpm (43.2 MGD).

1. Flow: The previous permit contained a requirement to report the daily maximum flow for each month and the total gallons bypassing secondary treatment for each month.

   A summary of the monthly Discharge Monitoring Report (DMR) data for the period January 2012 – November 2015 indicates the following:

Flow (DMRs=47)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Daily maximum	Report	2.6 – 30.4 (2012) 0.58 – 14.1 (2013) 3.6 – 22.1 (2014) 1.74 – 16.2 (2015)	10.1 (2012) 4.8 (2013) 11.1(2014) 8.1 (2015)

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

b. OUTFALL #001B - Primary Treated and Disinfected Waste Waters
[See Special Condition A(4)]

A summary of the monthly Discharge Monitoring Report (DMR) data for the period January 2012 – November 2015 indicates the following:

Flow (DMRs=47)

Value	Limit (MGD)	Range (MGD)	Total (MG)
Total gallons/month	Report	3.6 – 33.7 (2012)	212 (2012)
		1.4 – 39.5(2013)	122 (2013)
		7.8 – 62.5 (2014)	294 (2014)
		1.74 – 35.2 (2015)	148 (2015)

2. Surface Loading Rate: The previous permit required the permittee to report the daily maximum surface loading rate to track the efficiency of the primary clarifiers.

A summary of the monthly DMR data for the period January 2012 – November 2015 indicates the following:

Surface Loading Rate (DMRs=47)

Value	Limit (gpd/sf)	Range (gpd/sf)	Average (gpd/sf)
Daily Maximum	Report	1,154 – 66,066	6,556

3. Overflow Use, Occurrences: The previous permit required the permittee to report the monthly average overflow use occurrences for each month.

A summary of the monthly DMR data for the period January 2012 – November 2015 indicates the following:

Overflow occurrences (DMRs = 47)

Value	Range (# of days)	Total (# of days)
2012	1 - 7	51
2013	0 - 8	44
2014	0 14	63
2015	0 - 11	60

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

b. OUTFALL #001B - Primary Treated and Disinfected Waste Waters

c. [See Special Condition A(4)]

4. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): The previous permit required the permittee to report the daily maximum concentration of BOD and TSS for each month a bypass(es) occurred.

   A summary of the monthly DMR data for the period of January 2012 – December 2015 indicates the following:

   BOD_5 Concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	Report	52 – 313	112

   TSS concentration

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	Report	53 – 185	102

5. BOD & TTS Removal rates - The previous permit required the permittee to report the monthly average removal rates for each month a bypass(es) occurred.

   A summary of the monthly DMR data for the period of January 2012 – December 2015 indicates the following:

   BOD_5 % removal

Value	Limit (%)	Range (%)	Average (%)
Daily Maximum	Report	-480 – 64	-25

   TSS % removal

Value	Limit (%)	Range (%)	Average (%)
Daily Maximum	Report	-147 – 96	20

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

b. OUTFALL #001B - Primary Treated and Disinfected Waste Waters
[See Special Condition A(4)]

6. Fecal coliform bacteria: The previous permit established a daily maximum Department BPT limit of 200 col/100 ml.

A summary of the monthly DMR data for the period of January 2012 – December 2015 indicates the following:

Fecal coliform bacteria (DMRs=48)

Value	Limit (#col/100 mL)	Range (#col/100 ml)	Arith. Mean (#col/100 mL)
Daily Maximum	200/100 mL	1 – 6,000*	222

The value of 6,000 col/100 ml is considered an outlying data point that skews the overall mean of the data set. If the data point is removed from set, the values are as follows:

Fecal coliform bacteria (DMRs=48)

Value	Limit (#col/100 mL)	Range (#col/100 ml)	Arith. Mean (#col/100 mL)
Daily Maximum	200/100 mL	1 – 800	66

7. Total residual chlorine (TRC): The previous permit established a daily maximum BPT numeric limitation of 0.3 mg/L for TRC as the facility dechlorinates the waste stream.

A summary of the monthly DMR data for the period of January 2012 – December 2015 indicates the following:

Total Residual Chlorine

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	0.3	0.0 – 0.25	0.1

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

b. OUTFALL #001B - Primary Treated and Disinfected Waste Waters
[See Special Condition A(4)]

8. pH: The previous permit established a daily maximum reporting requirement for pH.

A review of the DMR data for the period January 2012 – December 2015 indicates the pH range was 6.8 SU to 7.9 SU.

pH

Value	Limit (su)	Minimum (SU)	Maximum (su)
Range	6.0 – 9.0	6.4	7.6

c. Blended Effluent - CSO-Related Bypasses of Secondary Treatment

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 shall 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.[1] 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."[2]

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1 59 Fed. Reg. 18,688, at 18,693 and 40 CFR Part 122.41(m)(4) (April 19, 1994).

2 59 Fed. Reg. at 18,694.

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

c. Blended Effluent - CSO-Related Bypasses of Secondary Treatment

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.[3] 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.[4] 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 PWD East End facility based on an evaluation of feasible alternatives, which indicates it is technically and financially infeasible at this time to provide secondary treatment at the existing facilities as summarized in the original CSO Master Plan. The permittee must continue to work with the City of Portland to implement CSO control projects in accordance with the approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled, *Combined Sewer Overflow Abatement Study Master Plan-City of Portland, Maine*, dated December 1993 (revised in January 1997) and abatement project schedule was approved on June 25, 1997. The abatement schedule was modified in the document entitled, *City of Portland Tier II Combined Sewer Overflow Abatement 8-Year Implementation Plan,* dated February 5, 2003 and was approved by the Department on February 10, 2003 and subsequently modified in a letter entitled, *City of Portland – Request to Modify the CSO Master Plan Schedule*, dated April 8, 2008. The schedule was further modified in a letter titled *City of Portland - Request to Modify Tier II Combined Sewer Overflow Abatement Implementation Plan*, dated January 25, 2011, and approved by the Department on February 24, 2011. The schedule was further modified in a document submitted to the Department on January 25, 2013, entitled *Combined Sewer Overflow Long Term Control Plan, Tier III Update*. The document was reviewed and approved by the Department on April 19, 2013. The abatement schedule may be amended from time to time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

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[3] 59 Fed. Reg. at 18,693.

[4] 59 Fed. Reg. at 18694, col 1 (April 19, 1994).

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

c. Blended Effluent - CSO-Related Bypasses of Secondary Treatment

During wet weather events when flows to the treatment facility has exceeded an instantaneous flow rate of 25,600 gpm (36.8 MGD), secondary treatment of all wet weather flows is not practicable thus, 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 after chlorination and dechlorination and then discharged to the river via the physical outfall designated as Outfall #001A. 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. Therefore, the effluent quality from a properly designed, operated and maintained existing primary treatment system satisfies the requirements for primary clarification and solids removal.

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.[5] 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[6]. To standardize how the Department will regulate these facilities to ensure compliance with the CSO Control Policy and Clean Water Act [7], the Department has determined that effluent limitations for the discharge of CSO-related bypass effluent that is 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) or site-specific water quality-based limits derived from computer modeling or best professional judgment of Department water quality engineers of assimilative capacity of the receiving water.

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[5] 40 CFR 122.45(h).

[6] Maine currently has 16 permitted facilities with a CSO-related bypass.

[7] In other words, that any other treatment that can reasonably be provided is, in fact, provided.

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

c. Blended Effluent - CSO-Related Bypasses of Secondary Treatment

The federal secondary treatment regulation does not contain daily maximum effluent limitations for BOD_5 and TSS. The Department has established a daily maximum concentration limit of 50 mg/L for secondary treated wastewater as best professional judgment of best practicable treatment. This standard was developed by the Department 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 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. This permitting action is eliminating the reporting requirements for primary clarifier BOD_5 and TSS percent removal 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.

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.

For the discharge of blended effluent to Casco Bay via the main outfall (#001A), the Department is establishing daily maximum technology-based effluent limitations for BOD_5 and TSS for discharges of blended wastewater when the flow rate through secondary treatment has exceeded an instantaneous flow rate of 25,600 gpm (36.8 MGD). Discharges of blended effluent to Casco Bay are only allowed when the influent to the treatment facility has exceeded an instantaneous flow rate of 25,600 gpm (36.8 MGD).

1. Flow, BOD_5 and TSS: Given the configuration of the treatment plant, the permittee has measured flow, and concentrations for BOD_5 and TSS for former Outfall #001B (primary treated only). To be conservative, the Department has chosen the highest pollutant loading discharged from Outfall #001B by conducting a statistical evaluation of the monthly daily maximum mass loadings for the period January 2012 – November 2015. The monthly daily maximum mass loadings were derived using the daily maximum flow and daily maximum BOD & TSS concentration for each month the bypass was active. The statistical evaluation calculated the 99^{th} percentile for each parameter as follows:

   Flow: 27.0 MGD

   BOD_5: 21,648 lbs./day

   TSS: 38,658 lbs./day

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

c. Blended Effluent - CSO-Related Bypasses of Secondary Treatment

For secondary treated effluent, the Department conducted a similar statistical evaluation by calculating the 99th percentile of BOD and TSS based on the daily maximum mass values reported on the monthly DMRs for each parameter.

The statistical evaluation calculated the 99th percentile for each parameter as follows:

Flow: 36.8 MGD (bypass threshold)

BOD_5: 11,718 lbs./day

TSS: 14,322 lbs./day

For the purposes of this permitting action, the Department calculated a blended effluent as follows:

Flow: 27.0 MGD + 36.8 MGD – 63.8 MGD

BOD_5: 21,648 lbs./day + 11,718 lbs./day = 33,366 lbs/day
(1°) (2°)

TSS: 38,658 lbs./day + 14,322 lbs./day = 52,980 lbs/day
(1°) (2°)

The Department has made a best professional judgment that the far-field dilution of 1,970:1 calculated in section 6(a)(10) of this Fact Sheet is the most appropriate dilution factor to utilize under wet weather conditions. As a result, the increase in the BOD and TSS concentration in Casco Bay as a result of the discharge of blended effluent can be calculated as follows:

BOD: $\frac{33{,}366 \text{ lbs/day}}{(63.8 \text{ MGD})(8.34 \text{ lbs/gal})}$ = 63 mg/L (blended effluent concentration)

$\frac{63 \text{ mg/L}}{1970}$ = 0.032 mg/L (not measureable)

TSS: $\frac{52{,}980 \text{ lbs/day}}{(63.8\text{MGD})(8.34 \text{ lbs/gal})}$ = 100 mg/L (blended effluent concentration)

$\frac{100 \text{ mg/L}}{1970}$ = 0.05 mg/L (not measureable)

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

c. Blended Effluent - CSO-Related Bypasses of Secondary Treatment

Based on the combined BOD_5 and TSS values (blended effluent) cited, the Department has made a best professional judgment, maximum effluent discharge limitations of 33,366 lbs./day for BOD_5 and 52,980 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 Casco Bay 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 of 33,366 lbs./day for BOD_5 and 52,980 lbs/day for TSS for the discharge of primary and secondary blended effluents when the flow rate through secondary treatment has exceeded an instantaneous flow rate of 25,600 gpm (36.8 MGD) complies with the exceptions to antibacksliding at Section 402(o)(2)(B)(i) of the Clean Water Act.

2. Fecal coliform bacteria: The previous permit did not establish any limitations or monitoring requirements for fecal coliform bacteria for the blended effluent waste stream. The Department is establishing a daily maximum limit of 200 col/100 ml based on Department best professional of best practicable treatment under wet weather conditions at the treatment facility.

3. Total residual chlorine (TRC): The previous permit did not establish any limitations or monitoring requirements for TRC for the blended effluent waste stream. As with fecal coliform bacteria, the Department is establishing a daily maximum limit of 1.0 mg/L based on Department best professional of best practicable treatment under wet weather conditions at the treatment facility.

4. Minimum instantaneous flow – This permit is establishing a requirement to report the minimum instantaneous flow when a bypass event is triggered. The data reported will be evaluated against the requirement to convey at least 25,600 gpm (36.8 MGD) through the secondary treatment side of the treatment plant before bypassing secondary treatment.

5. BOD & TSS % removal and surface loading rates – With the sampling of all discharge events after blending, the Department has made a best professional judgment that obtaining this information on the primary treated only waste (former Outfall #001B) is no longer necessary. Therefore, all three reporting requirements are being removed from the permit.

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

d. Combined Sewer Overflows

This permit does not contain effluent limitations on the individual CSO outfalls listed in the table below. The permittee must continue to work with the City of Portland to implement CSO control projects in accordance with the approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled, *Combined Sewer Overflow Abatement Study Master Plan-City of Portland, Maine*, dated December 1993 (revised in January 1997) and abatement project schedule was approved on June 25, 1997. The abatement schedule was modified in the document entitled, *City of Portland Tier II Combined Sewer Overflow Abatement 8-Year Implementation Plan,* dated February 5, 2003 and was approved by the Department on February 10, 2003 and subsequently modified in a letter entitled, *City of Portland – Request to Modify the CSO Master Plan Schedule*, dated April 8, 2008. The schedule was further modified in a letter titled *City of Portland - Request to Modify Tier II Combined Sewer Overflow Abatement Implementation Plan*, dated January 25, 2011, and approved by the Department on February 24, 2011. The schedule was further modified in a document submitted to the Department on January 25, 2013, entitled *Combined Sewer Overflow Long Term Control Plan, Tier III Update*. The document was reviewed and approved by the Department on April 19, 2013. The abatement schedule may be amended from time to time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

The following are the locations for the permittee's Combined Sewer Overflows (CSOs):

Outfall # (PWD #)	Regulator Location	Outfall Location	Receiving Water,Class
002 (022)	Arcadia St. Pump Station	End of Arcadia St.	Presumpscot Estuary, SC
004 (026)	Tukey's Bridge Siphon	B&M Baked Beans	Casco Bay, SC
005 (010)	Randall Street	Baxter Blvd. and Randall St.	Back Cove, SC
007 (011)	Ocean Avenue	Baxter Blvd.	Back Cove, SC
008 (020)	Clifton St.	Baxter Blvd. and Clifton St.	Back Cove, SC
009 (012)	George Street	Baxter Blvd. and George St.	Back Cove, SC
010 (014)	Mackworth St.	Baxter Blvd. and Mackworth St.	Back Cove, SC
011 (017)	Chenery Street	Baxter Blvd. and Chenery St.	Back Cove, SC
012 (018)	Vannah Ave.	Baxter Blvd and Vannah Ave.	Back Cove, SC

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

d. Combined Sewer Overflows

015 (019)*	Dartmouth St.	Baxter Blvd. and Dartmouth St.	Back Cove, SC
016 (021)*	Bedford Street	Baxter Blvd.	Back Cove, SC
020 (024)	Northeast Pump Station	Northeast Pump Station, Marginal Way	Casco Bay, SC
023 (003)	India St. Pump Station	Portland Ferry Terminal	Portland Harbor, SC
025 (004)	Long Wharf	Commercial St. and Franklin	Portland Harbor, SC
027 (005)	Clark Street	Commercial St. and Clark St.	Portland Harbor, SC
028 (006)	Emery Street	Commercial St. and Emery St.	Portland Harbor, SC
029 (007)	Commercial Street	Commercial St.	Fore River, SC
030 (008)	St. John Street	Barber Foods Parking Lot	Fore River, SC
032 (028)	Thompson's Point Pump Station	Thompson's Point Pump Station	Fore River, SC
033 (009)	Fore River Pump Station	Fore River Pump Station	Fore River, SC
034 (025)	Brewer Street	End of Brewer St.	Fore River, SC

There are two (2) regulators each for CSOs #015 and #016. The permittee owns one of each and the City of Portland owns one of each.

The Department has determined that the treated waste waters discharged from the East End facility will receive best practicable treatment in accordance with secondary treatment standards for dry weather monthly average design flows of up to 19.8 MGD and a peak wet weather flow rate of 25,600 gpm (36.8 MGD). The Department finds that combined sewer overflows (CSOs) are integral to the permittee's collection system also meet best practicable treatment standards based on an approved CSO Abatement Master Plan pursuant to *Combined Sewer Overflow Abatement*, 06-096 CMR 570 (effective February 5, 2000). The Department has determined that the discharge as permitted will meet State and Federal numeric and narrative water quality standards.

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

e. Transported Wastes

The previous permitting action authorized the permittee to accept and treat up to 24,000 gpd of transported wastes. *Standards For The Addition of Transported Wastes to Wastewater Treatment Facilities*, 06-096 CMR 555 (effective 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. A facility may receive more than 1% of the design capacity on a case-by-case basis. With a design capacity of 19.8 MGD, 24,000 gpd only represents 0.12% of said capacity.

For documentation purposes, this Fact Sheet is incorporating the following language from the December 2000 Waste Discharge License.

In the expired license, the septage was limited to 8000 lbs/day of TSS and 4000 lbs/day of BOD, and no flow amount was specified. In back-calculating to obtain flow, two different flow limits can be derived. In this evaluation, the TSS loadings represent the most limiting factor and thus the 8000 lbs/day TSS loadings was used to calculate the recommended flow. The calculations were based on measured average mass concentrations for the East End WWTF calculated by the District: TSS = 20728 mg/L; BOD = 5925 mg/L. Using the TSS mass loading of 8000 lbs/day results in a calculated septage volume of approximately 46,000 gallons per day.

However, facility influent average BOD and TSS mass loadings are exceeding design influent loadings, based on data from the 1999 reporting year. The District may be found in violation of Department Rule Chapter 555, "Standards for Addition of Septage to Wastewater Treatment Facilities," if addition of septage has an adverse effect on sludge disposal practices or causes any design parameter of the facility to be exceeded. In the opinion of the Department, the recommended 46,000 gallons per day of septage, if received on a daily basis would greatly impact the facility both in maintaining secondary treatment and in keeping pace with sludge processing and removal. The District reported an average of 80,104 gallons per month of septage received at the East End WWTF during 1999. The District on average accepted approximately 4000 gallons per day in 1999, based on a five day work week, with a maximum septage receipt of 24,000 gallons on one day during September 1999. The District has maintained excellent removal rates at the East End WWTF and is in compliance with its secondary effluent limits. Based on these findings, the Department recommends setting a limit of 24,000 gallons per day of septage being introduced into the treatment process. This septage volume shall be contingent upon the District maintaining good removal rates and not incurring any sludge handling problems at the East End WWTF.

The permittee submitted a copy of its Transported Waste Management Plan to the Department as part of its application for permit renewal. The Department has reviewed the plan and made a best professional judgment that under normal operating conditions treating up to 24,000 gpd of transported waste will not cause or contribute to operational issues at the treatment facility.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge from the permittee will not cause or contribute to the failure of the waterbody to meet standards for Class SC classification. As for the CSOs, the permittee's capacity to handle and treat wet weather generated influent flow through its CSO-related primary bypass will result in reductions of pollutant loadings from the permittee's and City's CSO discharge points and mitigate any adverse water impacts associated with such discharges. If ambient water quality monitoring or future modeling determines that at full permitted discharge limits, the permittee's discharge is causing or contributing to the non-attainment of standards, this permit will be reopened per Special Condition Q, *Reopening of Permit For Modifications*, to impose more stringent limitations to meet water quality standards.

8. PRETREATMENT

The permittee is required to administer a pretreatment program based on the authority granted under Federal regulations 40 CFR §122.44(j), 40 CFR Part 403 and section 307 of the Federal Water Pollution Control Act (Clean Water Act) and *Pretreatment Program*, 06-096 CMR 528. The permittee's pretreatment program received EPA approval on July 19, 1985 and as a result, appropriate pretreatment program requirements were incorporated into the previous National Pollutant Discharge Elimination System (NPDES) permit which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued. Since issuance of the previous NPDES permit, the State of Maine has been authorized by the EPA to administer the federal pretreatment program as part of receiving authorization to administer the NPDES program. Upon issuance of this MEPDES permit, the permittee is obligated to modify (if applicable) its pretreatment program to be consistent with current federal regulations and State rules. Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce Department approved specific effluent limits (technically-based local limits - last approved by the EPA on May 13, 1999; (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with federal regulations and State rules; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant noncompliance for industrial users; and (6) establish a definition of and track significant industrial users. These requirements are necessary to ensure continued compliance with the permittee's MEPDES permit and its biosolids use or disposal practices.

These requirements are necessary to ensure continued compliance with the permittee's MEPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, this permit requires that within 180 days of the permit's effective date, the permittee shall submit to the Department in writing, a description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal and State pretreatment regulations and rules respectively. These requirements are included in the permit (Special Condition N(2)(h)) to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, by December 1 of each calendar year, the permittee must submit a pretreatment report detailing the activities of the program for the twelve month period ending 60 days prior to the due date.

9. PUBLIC COMMENTS

Public notice of this application was made in the *Portland Press Herald* newspaper on or about March 14, 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 shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses,* 06-096 CMR 522 (effective January 12, 2001).

10. DEPARTMENT CONTACTS

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

Gregg Wood
Division of Water Quality Management
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Tel: (207) 287-7693 Fax: (207) 287-3435
e-mail: gregg.wood@maine.gov

11. RESPONSE TO COMMENTS

During the period of April 29, 2016, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued for the discharge(s) from Portland Water District's (PWD) East End Waste Water Treatment Facility (EEWTF). The Department received written comments from the permittee (PWD), the City of Portland, the U.S. Environmental Protection Agency (USEPA) and the Friends of Casco Bay (FOCB) that resulted in substantive change(s) in the terms and conditions of the permit. In addition, meetings were held on Tuesday, July 12, 2016, and again on Friday, September 23, 2016, between the permittee, Department personnel and FOCB. Therefore, the Department has prepared a Response to Comments as follows:

PWD (Letters dated May 31, 2016 and July 21, 2016)

Comment #1: The permittee states "...if the Department is going to develop nitrogen limits or enforceable conditions related to nitrogen in our waste discharge license, it is imperative that appropriate, site specific nitrogen criteria be properly adopted under Maine law and regulations." and "...be developed through a robust scientific and public process." The permittee also states "Maine DEP on page 21 of 39 of the proposed draft Fact Sheet notes that while Maine has not promulgated numeric ambient water quality criteria for total nitrogen, it is its best professional judgment that thresholds of 0.45 mg/L (protection of aquatic life using dissolved oxygen as an indicator) and 0.32 mg/L (protection of aquatic life using eel grass as an indicator) are appropriate."

11. RESPONSE TO COMMENTS (cont'd)

PWD (Letters dated May 31, 2016 and July 21, 2016)

The District does not agree with the Department's judgment that these thresholds are appropriate for Portland Water District's East End WWTF's receiving waters. The total nitrogen criteria that may be appropriate in other areas, such as an embayment in Massachusetts or a bay in New Hampshire, are not necessarily relevant to receiving water conditions at the District's East End plant."

Response #1 – The Department agrees with the PWD in that establishing numeric ambient water quality criteria should be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated uses of the receiving water. For waters with multiple use designations, the criteria must support the most sensitive use and be adopted in accordance with Maine laws and regulations.

The USEPA requested the Department evaluate the reasonable potential for the discharge of total nitrogen to cause or contribute to non-attainment of applicable water quality standards in marine waters, namely dissolved oxygen (DO) and marine life support. However, given the State of Maine has not adopted ambient water quality for total nitrogen as of the date of this permitting action, the Department is utilizing a threshold of 0.45 mg/L for the protection of aquatic life in marine waters using dissolved oxygen as the indicator, and 0.32 mg/L for the protection of aquatic life using eelgrass as the indicator based on studies in USEPA's Region 1 and the Department's best professional judgment of thresholds that are protective of Maine water quality standards. This process is also consistent with 06-096 CMR Chapter 523 §523(5)(d)(1)(i – vi).

The studies the Department is referring to are the *Numeric Nutrient Criteria For the Great Bay Estuary* (June 10, 2009) and *Relationship between nitrogen concentration, light and Zostera marina habitat quality and survival in southern Massachusetts estuaries* (Benson et al, September 20, 2013). Though the science supporting the 2009 report has been disputed, the Department considers this information to be the best science available at this time and will continue to utilize said thresholds until numeric water quality standards for total nitrogen are formally promulgated.

FOCB (Letter dated May 25, 2016 and e-mails dated August 25, 2016 and October 28, 2016)

Comment #2: FOCB stated "We believe that the City and the Portland Water District should engage in Integrated Planning to avoid a situation where large sums of money are spent to eliminate one source of pollution, only to create another potential pollution source. We believe that only through integrated planning can money be allocated effectively to eliminate sources of pollution and improve the health of Casco Bay." This concept was also discussed at the July 12, 2016, meeting at the PWD office.

11. RESPONSE TO COMMENTS (cont'd)

FOCB (Letter dated May 25, 2016 and e-mails dated August 25, 2016, and October 28, 2016)

Response #2: All parties concur that integrated planning can assist the City of Portland and the PWD in prioritizing cost effective and water quality protective solutions by maximizing their infrastructure improvement dollars through the appropriate sequencing of work. As of the date of the issuance of this permit, it is the Department's understanding that the City is still in the development stages for a comprehensive integrated planning program. The PWD has no objection to being a participant in integrated planning with the City of Portland once the City establishes a planning strategy. As agreed at the July 12th meeting, page 27 of the Fact Sheet has been revised to acknowledge the importance of cooperation and benefits to integrated planning.

Comment #3: The FOCB stated "The Department then notes that, with the exception of ammonia, nitrogen is not toxic. It therefore considered a far field dilution test to be appropriate and set the far field dilution factor at 1970:1. Draft Fact Sheet at 20-21. We have never seen this methodology applied to nitrogen limits. We found no scientific evidence to support this methodology. The Department should use more generally accepted testing methods to re-evaluate whether total nitrogen from the plant has a reasonable potential to cause or contribute to non-attainment of applicable water quality standards. As written, we cannot support the conclusion that no nitrogen limit should be imposed on discharges from the EEWWTF." Follow-up comments by the FOCB included the following statements: "The permit should be strengthened by eliminating this model." "We have reviewed three relevant NPDES permits, (Taunton, MA., Newmarket, NH, Exeter, NH). These permits are excellent. Language from the Newmarket NPDES Fact Sheet is particularly instructive. That permit determines reasonable potential, without reference to a model, by analyzing: (1) existing controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from permit application, monthly discharge monitoring reports (DMRs), and State and Federal water quality reports; (3) sensitivity of species to toxicity testing; (4) statistical approach outlined in Technical Support Document for Water Quality-based Toxics Controls, March 1991, EPA/505/2-90-001 in Section 3; and, where appropriate, (5) dilution of the effluent in the receiving water. This permit, upheld on appeal before the Environmental Appeals Board, serves as support for eliminating the far field dilution model from the EEWWTF MEPDES permit."

Response #3: Pages 20 and 21 of this Fact Sheet state that the hydraulic conditions at the East End outfall are more complex and more dynamic than most marine discharge locations. These unique characteristics help to maximize far-field mixing to the practical extent possible. There is a general filling and emptying current that persists from the outer portion of Casco Bay to the inner portion of Casco Bay (along the Falmouth shoreline). Based on these factors there is almost no potential for localized nutrient related influences to persist at time scales greater than just a few hours.

The far-field dilution factor was determined by quantifying the relative tidal prism associated with the Fore River, Back Cove, the Presumpscot River, and a small portion of inner Casco Bay in the Falmouth vicinity. This tidal prism (2.6 trillion cubic feet or 19 trillion gallons) is flushed past the East End discharge twice per day with a mean tidal prism of 9.1 feet.

11. RESPONSE TO COMMENTS (cont'd)

FOCB (Letter dated May 25, 2016 and e-mails dated August 25, 2016 and October 28, 2016)

As for the Newmarket NH permit being an excellent example for determining reasonable potential, without reference to a model, by analyzing the five elements cited in the FOCB's comment, the Department considers the ambient water quality in Great Bay to be quite different than Casco Bay. Great Bay is on New Hampshire's Section 303(d) and Casco Bay is not on Maine's 303(d) list. The Fact Sheet of the Newmarket permit states "According to "Amendment to the New Hampshire 2008 Section 303(d) List Related to Nitrogen and Eelgrass in the Great Bay Estuary" (NHDES(a), 2009), the Lamprey River is also impaired for dissolved oxygen and biological and aquatic community integrity. According to the 303(d) list, the indicators showing dissolved oxygen impairment are chlorophyll *a*, nitrogen, and instream dissolved oxygen monitoring. The indicators showing biological and aquatic community integrity impairment are estuarine bioassessments for eelgrass, light attenuation coefficient, and nitrogen."

The Fact Sheet of the Newmarket permit states "Great Bay and many of the rivers that feed it are approaching, or in the case of the Lamprey River, have reached their assimilative capacity for nitrogen and are suffering from the adverse water quality impacts of nutrient over enrichment, including cultural eutrophication. They are, consequently, failing to attain the many water quality standards described above. The impacts of excessive nutrients are evident throughout the Great Bay estuary and the Lamprey River."

The Fact Sheet of the Newmarket permit states "...the Piscataqua Region Estuaries Partnership, have collected, compiled, and analyzed monitoring data to produce a "State of the Bay" report (typically issued every 3 years). These NEP "State of the Bay" reports are critical because they depict status and trends in the estuaries' environmental conditions. To gauge an estuary's health, each NEP develops environmental indicators — "specific, measurable markers that help assess the condition of the environment and how it changes over time." (NEP, 2003) The environmental indicators relating to excessive levels of nutrients include dissolved oxygen, total nitrogen, and eelgrass. The Piscataqua Region Estuaries Partnership has released three State of the Estuary Reports, each of which detail a trend of increasing impairments in the Great Bay Estuary due to rising nitrogen levels. In its 2003 report, the Partnership noted, "Despite the increasing concentrations of nitrate+nitrite in the estuary, there have not been any significant trends for the typical indicators of eutrophication: dissolved oxygen and chlorophyll-a concentrations. Therefore, the load of nitrate+nitrite to the bay appears to have not yet reached the level at which the undesirable effects of eutrophication occur." The 2006, report concluded that "more indicators suggest that the ecological integrity of the estuaries is under stress or may soon be heading toward a decline." It observed that "Dissolved oxygen concentrations consistently fail to meet state water quality standards in the tidal tributaries to the Great Bay Estuary." Additionally, the reported concentrations in Great Bay have increased by 59 percent in the past 25 years. Negative effects cautioned, "Negative effects of excessive nitrogen, such as algae blooms and low dissolved oxygen levels, are not evident. However, the estuary cannot continue to receive increasing nitrogen levels indefinitely without experiencing a lowering of water quality and ecosystem changes."

11. RESPONSE TO COMMENTS (cont'd)

FOCB (Letter dated May 25, 2016 and e-mails dated August 25, 2016 and October 28, 2016)

Most recently, in its 2009 report, eleven of 12 environmental indicators show negative or cautionary trends – up from seven indicators classified this way in 2006. According to the 2009 report, total nitrogen is increasing and eelgrass is decreasing within the estuary. The total nitrogen load to the Great Bay Estuary has increased by 42% in the last five years. In Great Bay, the concentrations of dissolved inorganic nitrogen, a major component of total nitrogen, have increased by 44% in the past 28 years. Eelgrass cover in Great Bay has declined by 37% between 1990 and 2008 and has disappeared from the tidal rivers, Little Bay, and the Piscataqua River. Dissolved oxygen is currently exhibiting a cautionary trend. While dissolved oxygen standards are rarely violated in the bays and harbors they are often violated in the tidal rivers. The negative effects of the increasing nutrient loads on the estuary system are evident in the decline of water clarity, eelgrass habitat loss, and failure to meet water quality standards for dissolved oxygen concentrations in tidal rivers (PREP, 2009).

It is clear much more comprehensive monitoring data has been collected and data assessment/evaluation have been conducted in Great Bay than there has been in Casco Bay to justify the establishment of water quality based limits for total nitrogen. Therefore, utilizing the five elements cited in the comment submitted by FOCB is impossible given the lack of ambient data and understanding of the hydrodynamics of water circulation in Casco Bay and how nutrients cycle through the Bay ecosystem. Again, Casco Bay is not on Maine's 303(d) list. However, as suggested by the FOCB, the Department consulted with an experienced modeler associated with the University of Maine and the Sea Grant Program regarding hydrodynamic modeling of Casco Bay. The modeler, the FOCB, the USEPA and the Casco Bay Partnership all have cautioned that models developed to date are out-of-date and the accuracy of the model outputs are questionable given the lack of understanding of the water circulation patterns in Casco Bay, the need to assess watershed loading of total nitrogen to Casco Bay and understand how nutrients cycle through the Bay ecosystem. The Casco Bay Estuary Partnership has developed a plan entitled *Casco Bay Plan 2016 – 2021* which outlines a scope of work and schedule using an adaptive management approach to fill data gaps and improve modeling of the Casco Bay. This information will assist all parties in future cost/benefit analyses to evaluate different nitrogen control strategies whether it be treatment upgrades or process control strategies at waste water treatment facilities, storm water management and or treatment, land conservation, land development efforts or some other alternative(s) resulting in financial investments that will give the highest return on those investments. The third party modeler is willing to assist in the Department and other parties in implementing the Casco Bay Estuary Plan provided funding is made available.

At this time, the Department maintains its position that given the significant flushing of the bay twice per day and that the introduction of nitrogen into Casco Bay system does not exert an immediate environmental response such as is the case with toxic pollutants, the far-field dilution as calculated by the Department to date is the appropriate tool to assess whether the discharge from the EEWWTF is causing, contributing or has a reasonable potential to cause or contribute to a violation of water quality standards.

11. RESPONSE TO COMMENTS (cont'd)

FOCB (Letter dated May 25, 2016 and e-mails dated August 25, 2016 and October 28, 2016)

Comment #4: The FOCB states "During active bypass, the permit sets daily maximum limits of 33,366 lbs/day for BOD_5 and 52,980 lbs/day for TSS. Under present plans, the EEWWTF will operate more frequently in bypass mode. The daily maximum limits set by this bypass come nowhere near secondary treatment. Therefore, we cannot support those limits." The FOCB also state "We urge the DEP to recalculate and revise these permit limits, in the context of an integrated planning approach that accounts for stormwater load that EEWWTF will receive."

Response #4: The EEWWTF is not designed to provide secondary treatment for all flows under all conditions. The facility is currently designed to provide secondary treatment for monthly average flows of up to 19.8 MGD and a peak hourly flow of 36.8 MGD. Flows above 36.8 MGD will receive primary treatment only. During storm events, flows entering the EEWWTF are limited to a peak instantaneous flow of 80 MGD. Flows above 80 MGD will be discharged to receiving waters via combined sewer overflow (CSO) structures throughout the collection system. Establishing secondary effluent limitations for flows above 36.8 MGD would be inappropriate.

The USEPA required the Department to assess whether these blended effluent loadings to Casco Bay met water quality standards. As explained on page 36 of this Fact Sheet, the BOD and TSS mass limitations for the blended effluent were established based in part based on a statistical evaluation of flows above 36.8 MGD that received primary treatment only. These mass loads were combined with the maximum permitted flows up to 36.8 MGD receiving secondary treatment. The combined mass loads from the two treated waste streams (blended effluent) represent what has historically (January 2012 – November 2015) been discharged to Casco Bay. As indicated on page 36 of the Fact Sheet, the instream increase in BOD and TSS concentrations were not measureable. Therefore, maximizing the secondary treatment system plus providing primary treatment for flows greater than what can be treated secondarily the discharge of BOD and TSS as permitted, has no measureable impact on water quality. There is no appreciable benefit to establishing secondary limitations for all flows treated at the EEWWTF.

The PWD and City of Portland have been utilizing the integrated planning approach by way of a CSO Long Term Control Plan that has been periodically updated and reviewed and approved by the Department. The most recent action item realized by the plan is the construction of storage conduits along Baxter Boulevard that are capable of storing up to 2 million gallons of storm water that captures the first inch of rain during a wet weather event. This is often referred to as the first flush of a wet weather event in which the bulk of pollutants in storm water are captured. Once the storm passes, and the CSO related bypass (primary treatment only) has ceased operating, the contents of the storage conduits are conveyed to the EEWWTF for secondary treatment. This scenario eliminates up to 2 million gallons of untreated waste water and storm water from being discharged to Casco Bay during a wet weather event. Conveying this flow to the treatment plant will not result in the EEWWTF operating more frequently in bypass mode.

11. RESPONSE TO COMMENTS (cont'd)

FOCB (Letter dated May 25, 2016 and e-mail dated August 25, 2016 and October 28, 2016)

Comment #5 – The FOCB states, "Is the Department willing to insert language agreeing to reopen the permit before the end of the permit cycle based on results of its sampling and to contemplate the ability of the EEWWTF to denitrify after upgrade of its aeration tanks?"

Response #5 – The Department and other parties have scheduled more comprehensive ambient water quality monitoring of Casco Bay during summer of 2017. The third party modeler requested by the FOCB and the USEPA has indicated he is seeking funding to install instrumentation in some of the larger tributaries to Casco Bay to obtain more accurate information on total nitrogen loadings to the bay. According to a USEPA report entitled *Estimates of Nitrogen Loads to Casco Bay, FINAL DRAFT* dated December 21, 2012, (Matthew Liebman, USEPA Region I, Gina Chaput, University of New Hampshire, Toby Stover, USEPA Region I), the Presumpscot, Royal, Stroudwater and Harraseeket rivers contribute notable nitrogen loads to Casco Bay. Special Condition A, footnote #9, states that after two years of monitoring (2018 & 2019) the permittee may petition the Department to reduce the monitoring frequency to 1/Month based on a statistical evaluation of the data collected up to that point in time. The report also identifies storm water, agricultural runoff, atmospheric deposition and sewage treatment plants as the source of nitrogen loading to Casco Bay. The PWD is scheduled to complete an upgrade of the treatment plant's aeration system in late spring or early summer 2017. The permit has been revised to require 1/Week seasonal (May – October) effluent monitoring for total nitrogen for the term of the permit beginning in calendar year 2018 to determine the efficacy of the alternative methods of operating the wastewater treatment facility in order to control total nitrogen levels. Special Condition N, *Nitrogen*, of this permit requires the permittee to submit an annual progress report to the Department that summarizes activities related to optimizing nitrogen removal efficiencies, documents the seasonal nitrogen discharge load from the facility and tracks trends relative to the previous year. The progress report must also contain a scope of work or tasks/measures to be taken in the next 12-month period to further reduce the nitrogen loading from the treatment facility.

All of the action items cited above as well as the interpretation of the results and any conclusions drawn from said actions will likely take the full five-year term of the permit. Therefore, the Department takes the position the reopener clause in Special Condition P, *Reopening of Permit For Modification*, of the permit is sufficient to address any documented and scientifically defensible water quality issues that arise during the term of this permit and can be utilized to reopen the permit, after notice to the permittee, to establish new or additional water quality based limitations or monitoring requirements.

Comment #6 – The FOCB state "It was our impression that this language (adaptive management approach optimizing nitrogen removal to target 20-40%), as well as the language regarding a 20-40% reduction of total nitrogen in the effluent, would be in the permit. The language should be in the permit. This reduction needs to be clarified in two respects. First, the Department must clarify whether reduction will be measured in mg/l or lbs./day from May to October. Second the Department must clearly indicate that the targeted reduction will be from either 15.7 mg/l or from 2,437 lbs./day. These terms must be in the permit."

11. RESPONSE TO COMMENTS (cont'd)

FOCB (Letter dated May 25, 2016 and e-mail dated August 25, 2016 and October 28, 2016)

Response #6 – Casco Bay is not on Maine's 303(d) impaired waters list so there is no basis or justification for establishing a numeric water quality based limitation or require a percent reduction in total nitrogen discharged. At the September 23, 2016, meeting, the PWD indicated a 20% - 40% reduction in the discharge of total nitrogen may be achieved by the end of the five-year term of the permit through improvements in the aeration system and modifying the process control at the treatment facility. The PWD has committed to make every reasonable effort to optimize the treatment process at the East End facility to reduce the discharge by a range of 20% - 40% lower than the existing seasonal average mass baseline of 2,437 lbs/day. The seasonal average mass baseline is not a permit limit. It is simply a mass load that the facility has demonstrated that it can consistently meet and will be the baseline by which future reductions in nitrogen discharged are measured. The 20%-40% reduction will not be based on concentration as the mass of total nitrogen is what potentially impacts the water quality in Casco Bay, not the concentration of the discharge.

Comment #7: The FOCB questioned the 1/Month sampling requirement for total nitrogen in the draft permit. The FOCB indicated a more frequent monitoring requirement would properly capture varying conditions. The same comment was voiced at a September 23, 2016, meeting between the Department, FOCB and the PWD. In its 10/28/16 e-mail, the FOCB also stated "...we request that, after two years of testing in 2018 and 2019, there be some type of evaluation or triggering mechanism to assess and determine the frequency of monitoring for the remainder of the permit term. For example, is the EEWWTF consistently achieving a 40% reduction? Or, is it at the apparent maximum reduction under current methodology? Is further optimization required? If so, we might need additional frequent testing. "

Response #7: The permittee agreed to a more frequent sampling requirement of 1/Week for the term of the permit beginning in calendar year 2018. The PWD suggested not to start the sampling until May of 2018 given it will need the summer of 2017 as a start-up period for operating the upgraded aeration system and to begin process control modifications to begin to optimize nitrogen removal in order to maintain the mass discharge of total nitrogen no greater than the existing seasonal mass loading of total nitrogen as calculated by the Department on page 27 of this Fact Sheet. As a result, the draft permit has been modified to establish a 1/Week seasonal (May – October) monitoring requirement and monthly average and daily maximum mass and concentration reporting requirements for total kjeldahl nitrogen and nitrate + nitrite nitrogen, and a requirement to report the monthly average and daily maximum mass values for total nitrogen each month. Special Condition A, footnote #9, states that after two years of monitoring (2018 & 2019) the permittee may petition the Department to reduce the monitoring frequency to 1/Month based on a statistical evaluation of the data collected up to that point in time.

11. RESPONSE TO COMMENTS (cont'd)

USEPA (letter dated May 27, 2016 and e-mail dated August 30, 2016)

Comment #8: The USEPA states " The mixing zone utilized in the reasonable potential is too high. The far field dilution model does not address issues associated with causing or contributing to water quality impairments in the vicinity of the outfall and therefore the Department should consider removing this analysis from the Fact Sheet."

Response #8: Though the USEPA believes the mixing zone is too high, a number a discussions between the Department's modeler and USEPA personnel has not resulted in the USEPA proposing an alternative method of analysis. At this time, the Department maintains its position that given the significant flushing of the bay twice per day and that the introduction of nitrogen into Casco Bay system does not exert an immediate environmental response such as is the case with toxic pollutants, the far-field dilution as calculated by the Department to date is the appropriate tool to assess whether the discharge from the EEWWTF is causing, contributing or has a reasonable potential to cause or contribute to a violation of water quality standards. The Department stands by its current modeling efforts until such time the USEPA or another party proposes an alternative approach that is acceptable to the Department.

However, as suggested by the FOCB, the Department consulted with an experienced modeler associated with the University of Maine and the Sea Grant Program regarding hydrodynamic modeling of Casco Bay. The Department, the third party modeler, the FOCB, the USEPA and the Casco Bay Partnership all have cautioned that models developed to date are out-of-date and the accuracy of the model outputs are questionable given the lack of understanding of the water circulation patterns in Casco Bay, the need to assess watershed loading of total nitrogen to Casco Bay and understand how nutrients cycle through the Bay ecosystem. The Casco Bay Estuary Partnership has developed a plan entitled *Casco Bay Plan 2016 – 2021* which outlines a scope of work and schedule using an adaptive management approach to fill data gaps and improve modeling of the Casco Bay. This information will assist all parties in future cost/benefit analyses to evaluate different nitrogen control strategies whether it be treatment upgrades or process control strategies at waste water treatment facility, storm water management and or treatment, land conservation, land development efforts or some other alternative(s) resulting in financial investments that will give the highest return on those investments. The third party modeler is willing to assist the Department and other parties in implementing the Casco Bay Plan provided funding is made available.

Comment #9: The USEPA states "The nitrogen analysis does not adequately evaluate the impact of the discharge with a high concentration of nitrogen mixing with a receiving water that is enriched from other sources."

Response #9 - Because the ambient monitoring data was collected when the EEWWTF was discharging, this data does in fact evaluate the impact of the discharge with a high concentration of nitrogen mixing with a receiving water that is enriched from other sources. In addition, the calculations on page 21 of the Fact Sheet support the monitoring data results.

11. RESPONSE TO COMMENTS (cont'd)

USEPA (letter dated May 27, 2016 and e-mail dated August 30, 2016)

Comment #10 - Reference is made to the average nitrogen concentration at five sites in the vicinity of the outfall but no data or map of the sites was provided.

Response #10 - Page 24 of this Fact Sheet has been revised to incorporate Figure #1 – a map depicting the locations of the six ambient water quality monitoring stations. In addition to the map, Table #2 has been incorporated citing ambient nitrogen values obtained for each monitoring station.

Comment #11: Additional comprehensive ambient monitoring is vital and an agreement merely to coordinate is insufficient assurance that the ambient monitoring will be completed. It is our understanding that MEDEP intends to conduct ambient water quality monitoring in the vicinity of the discharge next summer. The details of this monitoring should be provided and an explicit reopener should be included in the permit in the event the new information indicates that permit requirements are not sufficient to ensure attainment of water quality standards.

Response 11 – See response #5 on page 48 of this Fact Sheet.

Comment #12- The 1/month effluent total nitrogen sampling is not adequate for characterizing total nitrogen in the effluent, particularly for facilities such as this that have significant variations in flow.

Response #12 – See response #7 on 49 of this Fact Sheet.

Comment #13 - The eelgrass bed near Mackworth Island is exhibiting low light and heavy epiphytic and macro algae growth.

Response #13 - On July 26, 2016, the Department's marine biologist, USEPA water quality assessment personnel and a staff member from the FOCB met to review ambient data the Department utilized in its reasonable potential assessment of the impact (or lack thereof) of the EEWWTF discharge on eelgrass beds. The three parties generally agreed that the Department's assessment method, the available data and data gaps warranted additional ambient water quality data in the vicinity of the EEWWTF outfall. Collection of the additional data is scheduled for the summer of 2017. Until the 2017 data is collected and analyzed, the three parties had no objection to the Department's best professional judgment that the discharge is not causing, contributing or has a reasonable potential to cause or contribute to a violation of water quality standards.

11. RESPONSE TO COMMENTS (cont'd)

USEPA (letter dated May 27, 2016 and e-mail dated August 30, 2016)

As part of the eelgrass assessment, the USEPA had personnel from its agency with expertise in evaluating the health of eelgrass meadows, conduct a site visit on August 25, 2016, at four eelgrass meadows in Casco Bay to get a general sense of the condition of the meadows. The meadows were located at East End Beach, Fort Gorges and Mackworth Island. The USEPA indicated the East End Beach meadow (closest to the EEWWTF) exhibited signs of wasting disease and had a significant quantity of epiphytic growth and/or were fouled by algal growth. The USEPA stated a more detailed survey effort would be needed to quantify the extent of the expansion or loss of the meadow area. Assessments of the two meadows at Fort Gorges and the one meadow at Mackworth Island indicated the meadows were free of epiphytes and algae due to the presence of china snails which are grazers on epiphytes. The USEPA concluded that the meadow at the East End Beach showed signs of eutrophication and that due to the abnormally dry period during the growing season in 2016, it is likely that eutrophication issues are predominately being driven by wastewater discharges and not stormwater inputs.

The Department does not concur with the USEPA's conclusion based solely on one site visit. The Department believes a more comprehensive study of the meadows in the bay is warranted before citing waste water discharges as causing or contributing to eutrophication. Therefore, the Department is going to make provisions in its 2017 ambient water monitoring plan to evaluate the health of a number of meadows in the bay, particularly the East End Beach meadow.

Comment #14: The USEPA requests the permit require effluent monitoring and ambient monitoring for nitrogen. Ambient monitoring should focus on collecting data that would allow for comprehensive evaluation of eelgrass health, including nitrogen levels, light attenuation and epiphyte/macro algae growth.

Response #14: Special Condition A, *Effluent Limitations and Monitoring Requirements*, page 6 of the permit has been revised to incorporate seasonal (May – October) effluent monitoring requirements for total kjeldahl nitrogen, nitrate nitrogen, nitrate nitrogen and reporting requirements for total nitrogen.

The Department's marine biologist, USEPA water quality assessment personnel and a staff member from the FOCB met in July of 2016 and agreed that the Department's assessment method, the available data and data gaps warranted additional ambient water quality data in the vicinity of the EEWWTF outfall. Collection of the additional data is scheduled for the summer of 2017. The PWD has agreed to assist the three parties in developing an ambient water quality monitoring plan and assist in the collection of additional ambient data.

11. RESPONSE TO COMMENTS (cont'd)

USEPA (letter dated May 27, 2016 and e-mail dated August 30, 2016)

Comment #15 The USEPA states "The TSS is allowed to increase significantly under bypass conditions without any indication that water quality impacts on eelgrass habitat have been considered. Elevated TSS levels contribute to light attenuation which is detrimental to the health of eelgrass."

Response #15: The TSS has not been allowed to increase under bypass conditions. The daily maximum TSS mass limitation of 52,980 lbs/day is based on previously permitted best practicable treatment limitations on the secondary treated waste water plus a past demonstrated performance evaluation of TSS loadings from the primary treated waste water actually discharged from the EEWWTF to Casco Bay for the period January 2012 – December 2015. This limit is what has historically been discharged to the receiving water not granting an increase in the TSS to be discharged.

As for TSS contributing to light attenuation that is detrimental to the health of the eelgrass, the calculations on page 35 of this Fact Sheet do not support USEPA's comment. The increase in the concentration of ambient TSS as the result of 52,980 lbs/day of TSS being discharged from the EEWWTF is 0.05 mg/L which is not measureable and provides a reasonable assurance that is not detrimental to the health of eelgrass.

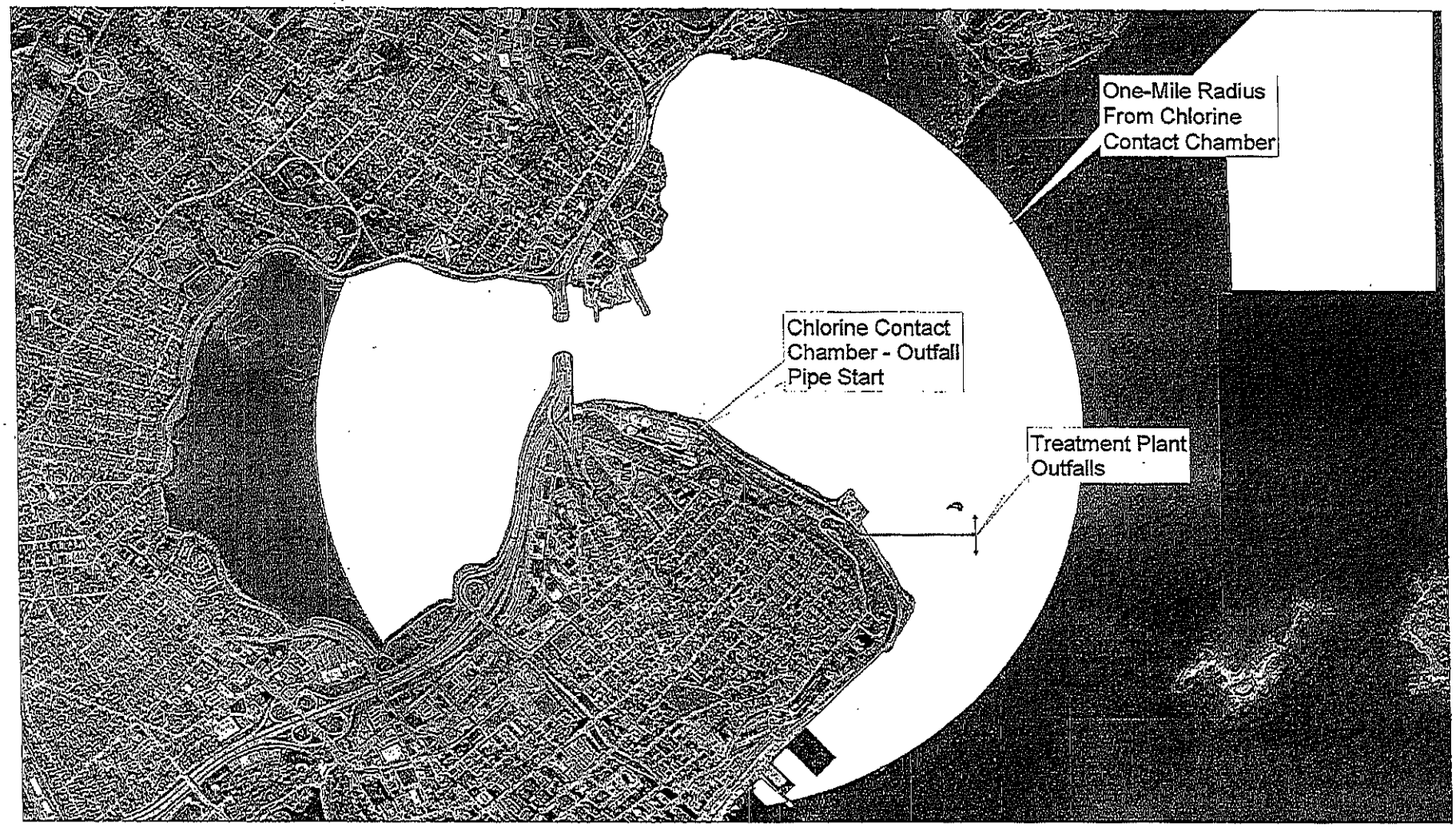
Comment #16: The USEPA state "The TRC is to be as high as 1.0 mg/L during bypass without adequate analysis that the water quality criteria will be met in the receiving water, including meeting acute criteria within any reasonably established mixing zone.

Response #16: The Department reviewed the continuous dye injection figures in the Casco Bay Dye/Sampling Study, dated August 1989, has made a best professional judgment that a dilution factor of 76:1 will be achieved after a reasonable opportunity for mixing of the effluent with the receiving water. As a result, the acute ambient water quality criteria of 0.013 mg/L will be met under bypass conditions.

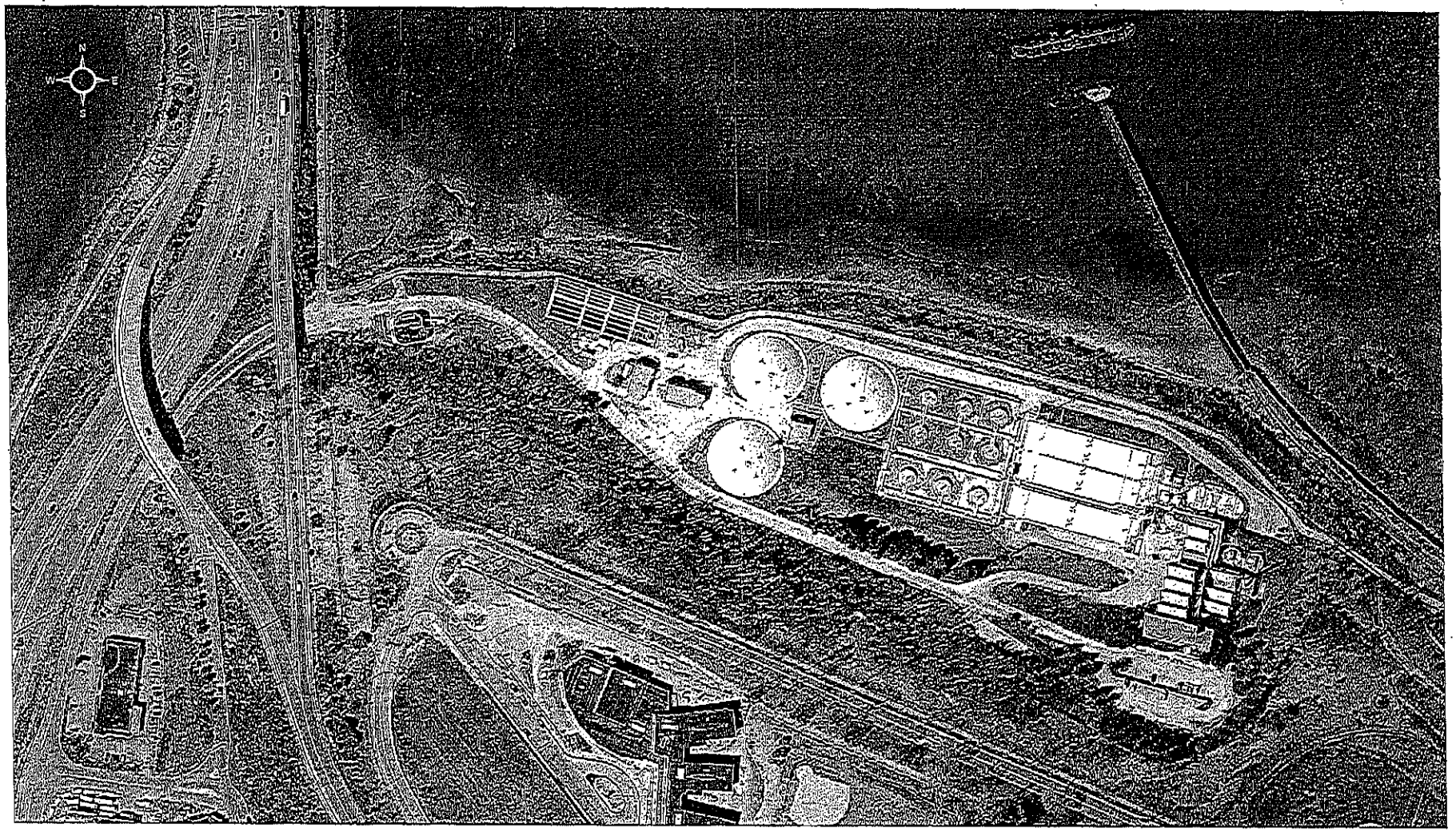
Comment #17: The USEPA states "It is not clear if any evaluation of acute effluent toxicity has been conducted during a bypass event. In the absence of such an evaluation, the permit should require whole effluent toxicity testing during a bypass event.

Response #17: Footnote #9a of Special Condition A, *Effluent Limitations and Monitoring Requirements*, has been revised to require at least one acute whole effluent toxicity (WET) test on the mysid shrimp must be conducted during CSO Related Bypass event.

ATTACHMENT A



PORTLAND WATER DISTRICT 225 Douglass Street Portland, ME 04104	Asset Management and Planning Dept.	East End Treatment Plant		One-Mile Radius From Chlorine Contact Chamber
	Drawn By: JGH Date: 12/13/2010 — Project Completion Date:	Portland		Sheet No. 2 of 2



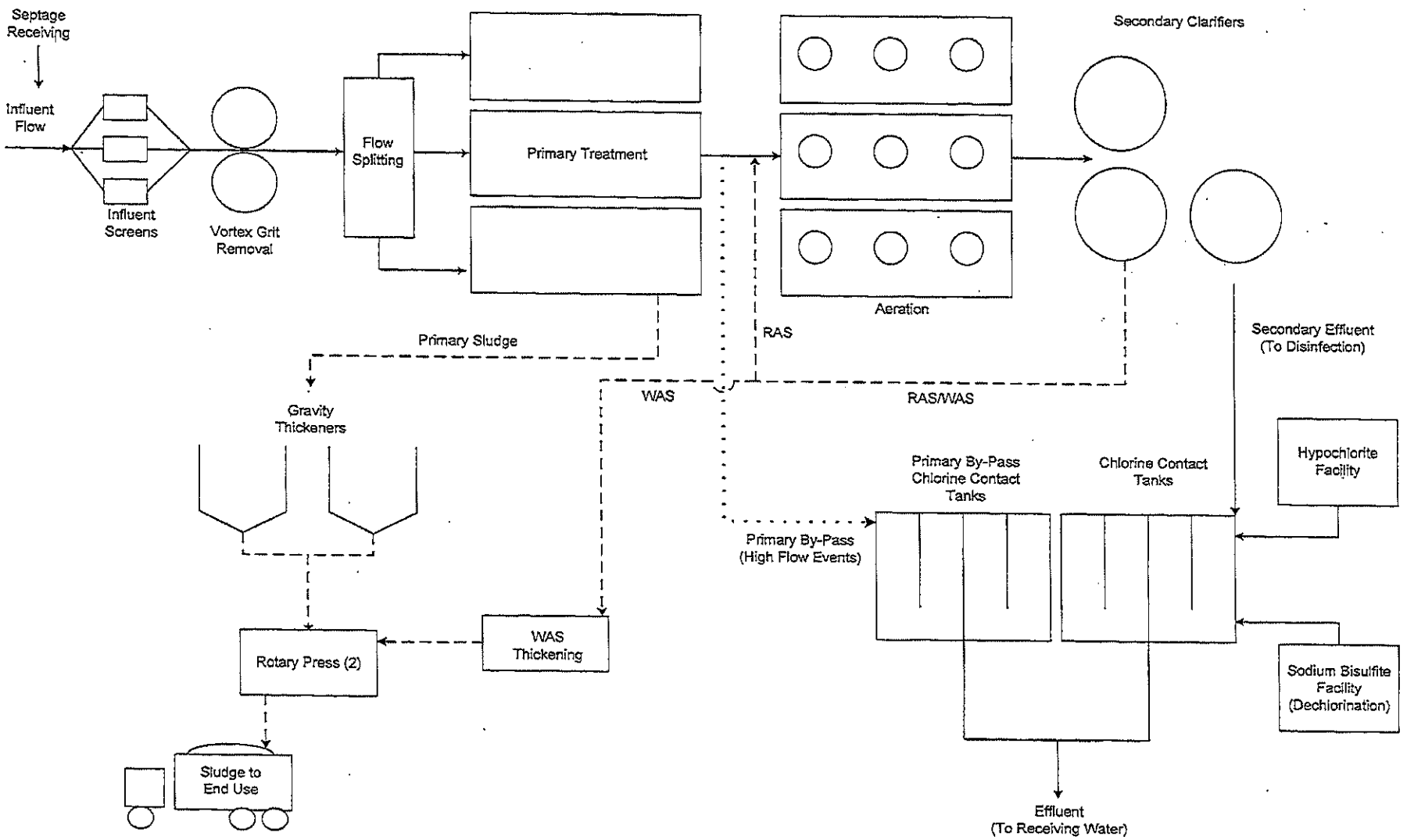
1 inch = 80 feet

0 40 80 160 240 320 Feet

PORTLAND WATER DISTRICT 225 Douglass Street Portland, ME 04104	Asset Management and Planning Dept.		East End Treatment Plant		Aerial View
	Drawn By: JGH Date: 12/13/2010	Project Completion Date:	Portland		Sheet No. 1 of 2

ATTACHMENT B

Portland Water District - Eas. . Wastewater Treatment Facility



ATTACHMENT C

WET TEST REPORT

Data for tests conducted for the period:
12/Apr/2011 - 12/Apr/2016

EAST END PORTLAND NPDES= ME010207 Effluent Limit: Acute (%) = 4.762 Chronic (%) = 2.439

Species	Test	Percent	Sample date	Critical %	Exception	RP
MYSID SHRIMP	A_NOEL	100	03/20/2013	4.762		
MYSID SHRIMP	A_NOEL	100	09/08/2014	4.762		
MYSID SHRIMP	A_NOEL	50	11/02/2015	4.762		
SEA URCHIN	C_NOEL	100	07/24/2012	2.439		
SEA URCHIN	C_NOEL	25	04/08/2013	2.439		
SEA URCHIN	C_NOEL	54.50	04/14/2014	2.439		
SEA URCHIN	C_NOEL	50	11/09/2014	2.439		
SEA URCHIN	C_NOEL	100	11/02/2015	2.439		

ATTACHMENT D

PRIORITY POLLUTANT DATA SUMMARY

Date Range: 12/Apr/2011 - 12/Apr/2016

Facility Name: **EAST END PORTLAND** NPDES: **ME0102075**

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
07/24/2012	15.86	15.85	16	10	0	0	0	6	0	F	0
03/20/2013	21.93	19.89	16	10	0	0	0	6	0	F	0
04/08/2013	17.56	17.45	16	10	0	0	0	6	0	F	0
04/14/2014	23.60	21.94	17	10	0	0	0	7	0	F	0
09/08/2014	13.60	13.40	15	10	0	0	0	5	0	F	0
11/09/2014	14.40	17.05	15	10	0	0	0	5	0	F	0
08/17/2015	13.92	11.89	12	10	0	0	0	2	0	F	0
11/02/2015	14.62	13.44	4	12	28	46	25	5	11	F	0
02/02/2016	0.36	0.33	12	10	0	0	0	2	0	F	0

Facility Name: **EAST END WWTF** NPDES: **ME0102075**

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
11/02/2015	14.62	13.44	123	12	28	46	25	5	11	F	0

Key:

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

ATTACHMENT E

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.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status.* The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.