STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

January 14, 2013

Mr. David Bolstridge
Environmental Compliance Manager
City of Rockland Water Pollution Control Facility
40 Tillson Avenue
Rockland, ME 04841-3417
dbolstridge@ci.rockland.me.us

***Sent via electronic mail***
***Delivery confirmation requested***

***RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100595***
***Maine Waste Discharge License (WDL) # W000681-5M-K-R***
***Proposed Draft MEPDES Permit Renewal***

Dear Mr. Bolstridge:

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

By copy of this letter, the Department is requesting comments on the proposed draft permit from various state and federal agencies, as required by our new regulations, and from any other parties who have notified the Department of their interest in this matter. If you have any questions regarding the matter, please feel free to call me.

All comments must be received in the Department of Environmental Protection office on or before the close of business **Wednesday, February 13, 2013.** Failure to submit comments in a timely fashion will result in the final document being issued as drafted. Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection
Bureau of Land & Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017
bill.hinkel@maine.gov

Sincerely,

Bill Hinkel
Division of Water Quality Management
Bureau of Land and Water Quality
bill.hinkel@maine.gov
ph: 207.485.2281

Enc.

ec: Jim Crowley, MDEP
Angela Brewer, MDEP
Lori Mitchell, MDEP
Brian Pitt, USEPA
Olga Vergara, USEPA
Alex Rosenberg, USEPA
David Pincumbe, USEPA
Steve Walker, MDIFW
Oliver Cox, MDMR
Michelle Mason, MDMR
Gail Wippelhauser, MDMR
Jeff Murphy, NMFS
Sean Mahoney, CLF

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

DEPARTMENT ORDER

**IN THE MATTER OF**

| | | |
|---|---|---|
| CITY OF ROCKLAND | ) | MAINE POLLUTANT DISCHARGE |
| ROCKLAND, KNOX COUNTY, MAINE | ) | ELIMINATION SYSTEM PERMIT |
| PUBLICLY OWNED TREATMENT WORKS | ) | AND |
| #ME0100595 | ) | WASTE DISCHARGE LICENSE |
| #W000681-5M-K-R **APPROVAL** | ) | **RENEWAL** |

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

## APPLICATION SUMMARY

The City has submitted a timely and complete application to the Department for renewal of Waste Discharge License (WDL) #W000681-5M-G-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0100595, which was issued on December 21, 2007, and expired on December 21, 2012. The 12/21/07 MEPDES permit authorized the City to discharge an unspecified quantity of secondary treated municipal wastewater and an unspecified quantity of primary treated municipal wastewater from a publicly owned treatment works (POTW) to the Atlantic Ocean at Rockland Harbor, Class SC, in Rockland, Maine. It is noted that the average design criterion of the facility is 3.3 million gallons per day (MGD). The 12/21/07 permit authorized the discharge of an unspecified quantity of excess combined sanitary and storm water wastewater from two (2) combined sewer overflow (CSO) points to the Atlantic Ocean at Rockland Harbor, Class SC, in Rockland, Maine.

The Department issued: a minor permit revision on January 31, 2008 to correct typographical errors and other non-substantive errata; a permit modification on November 21, 2009 to update dilution factors and water quality-based effluent limitations based on an outfall upgrade project; a permit modification on August 19, 2010 to revise the total arsenic concentration threshold based on a statistical evaluation of effluent data for total and inorganic arsenic; and a minor permit revision on February 6, 2012 to revise the mercury monitoring frequency.

## PERMIT SUMMARY

**This permitting action is similar to the 12/21/07 permitting action, two minor permit revisions and two permit modifications in that it is:**

*Secondary Treated Wastewater (Outfall #001A)*

1. Carrying forward the monthly average and daily maximum discharge flow reporting requirements;

**PERMIT SUMMARY (cont'd)**

*Secondary Treated Wastewater (Outfall #001A)*

2. Carrying forward the monthly average, weekly average and daily maximum concentration limits for biochemical oxygen demand ($BOD_5$) and total suspended solids (TSS);

3. Carrying forward the monthly average and weekly average technology-based mass limits for $BOD_5$ and TSS;

4. Carrying forward the daily maximum mass reporting requirements for $BOD_5$ and TSS;

5. Carrying forward the requirement for a minimum of 85% removal of $BOD_5$ and TSS;

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

7. Carrying forward the seasonal monthly average and the daily maximum concentration limits for fecal coliform bacteria;

8. Carrying forward the technology-based monthly average and water quality-based daily maximum concentration limits for total residual chlorine (TRC);

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

10. Carrying forward whole effluent toxicity (WET), priority pollutant and analytical chemistry testing requirements pursuant to *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005);

11. Carrying forward water quality-based monthly average concentration and mass limits for inorganic arsenic and a daily maximum concentration reporting requirement for total arsenic based on the results of facility testing;

12. Carrying forward previous Special Condition I, *Schedule of Compliance – Inorganic Arsenic*, for imposition of the arsenic limits;

13. Carrying forward authorization to accept and introduce into the treatment works a daily maximum of up to 2,000 gallons per day of septage wastes from local haulers;

*CSO-Related Bypasses of Secondary Treatment (Outfall #001C and #002A)*- For the purposes of this permitting action, this term refers to structures and or processes at the wastewater treatment facility that provide equivalent to primary treatment and disinfection of wastewater that bypass the biological treatment portion of the facility.

14. Carrying forward the primary treated wastewater bypass threshold of 5.7 MGD;

15. Carrying forward the daily maximum reporting requirements for discharge flow, $BOD_5$, TSS, and surface loading rate;

**PERMIT SUMMARY (cont'd)**

*CSO-Related Bypasses of Secondary Treatment (Outfall #001C and #002A)*

16. Carrying forward the monthly average reporting requirements for discharge flow and overflow occurrences; and

17. Carrying forward daily maximum concentration limits for fecal coliform bacteria of 200 colonies/100 ml and 1.0 mg/L for TRC.

**This permitting action is different from the 12/21/07 permitting action, two minor permit revisions and two permit modifications in that it is:**

*Secondary Treated Wastewater (Outfall #001A)*

1. Revising previous Special Condition H, now called *06-096 CMR 530(2)(D)(4) Statement for Reduced Waived Toxics Testing*, to include certification requirements for inflow/infiltration and transported wastes that may increase the toxicity of the discharge;

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

*CSO-Related Bypasses of Secondary Treatment (Outfall #001C and #002A)*- For the purposes of this permitting action, this term refers to structures and or processes at the wastewater treatment facility that provide equivalent to primary treatment and disinfection of wastewater that bypass the biological treatment portion of the facility.

3. Eliminating the reporting requirements for $BOD_5$ percent removal and TSS percent removal;

*Facility-Wide*

4. Revising previous Special Condition M, now called *Disposal of Transported Wastes in Wastewater Treatment Facility*, based on the revised rule, *Standards for the Addition of Transported Wastes to Waste Water Treatment Facilities,* 06-096 CMR 555 (last amended February 5, 2009);

5. Adding previous CSO outfall #003 to Special Condition O, *Pump Station Emergency Bypasses*; and

*Combined Sewer Overflows*

6. Eliminating authorization to discharge excess combined sanitary and storm water wastewater via Outfalls #003 and #009 as the City has completed its CSO abatement plan.

## CONCLUSIONS

BASED on the findings summarized in the attached **PROPOSED DRAFT** Fact Sheet dated January 14, 2013, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

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

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

3. The provisions of the State's antidegradation policy, *Classification of Maine waters*, 38 M.R.S.A. § 464(4)(F), will be met, in that:

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

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

   (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

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

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

4. The discharges will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S.A. § 414-A(1)(D).

**ACTION**

THEREFORE, the Department APPROVES the above noted application of the CITY OF ROCKLAND to discharge an unspecified quantity[1] of secondary treated municipal wastewater and an unspecified quantity of primary treated municipal wastewater to the Atlantic Ocean at Rockland Harbor, Class SC, in Rockland, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

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

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

3. This permit and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the authorization to discharge and the terms and conditions of this permit and all modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S.A. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (effective April 1, 2003)]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE THIS _____DAY OF _____, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
PATRICIA W. AHO, Commissioner

Date filed with Board of Environmental Protection _____

Date of initial receipt of application: September 24, 2012
Date of application acceptance: September 27, 2012
This Order prepared by Bill Hinkel, BUREAU OF LAND & WATER QUALITY

[1] For administrative purposes and calculation of effluent limitations, an average flow of 3.3 MGD shall be utilized, which is consistent with the average design criterion for this facility.

## SPECIAL CONDITIONS

## A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **secondary treated municipal wastewater from Outfall #001A** to the Atlantic Ocean at Rockland Harbor. Such discharges shall be limited and monitored by the permittee as specified below[(1)]:

| Effluent Characteristic | Discharge Limitations | | | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Monthly Average<br>as specified | Weekly Average<br>as specified | Daily Maximum<br>as specified | Monthly Average<br>as specified | Weekly Average<br>as specified | Daily Maximum<br>as specified | Measurement Frequency<br>as specified | Sample Type<br>as specified |
| Flow<br>*[50050]* | Report MGD<br>*[03]* | --- | Report MGD<br>*[03]* | --- | --- | --- | Continuous<br>*[99/99]* | Recorder<br>*[RC]* |
| $BOD_5$<br>*[00310]* | 826 lbs./day<br>*[26]* | 1,238 lbs./day<br>*[26]* | Report lbs./day<br>*[26]* | 30 mg/L<br>*[19]* | 45 mg/L<br>*[19]* | 50 mg/L<br>*[19]* | 3/Week<br>*[03/07]* | 24-Hour Composite *[24]* |
| $BOD_5$ Percent Removal[(2)]<br>*[81010]* | --- | --- | --- | 85%<br>*[23]* | --- | --- | 1/Month<br>*[01/30]* | Calculate<br>*[CA]* |
| TSS<br>*[00530]* | 826 lbs./day<br>*[26]* | 1,238 lbs./day<br>*[26]* | Report lbs./day<br>*[26]* | 30 mg/L<br>*[19]* | 45 mg/L<br>*[19]* | 50 mg/L<br>*[19]* | 3/Week<br>*[03/07]* | 24-Hour Composite *[24]* |
| TSS Percent Removal[(2)]<br>*[81011]* | --- | --- | --- | 85%<br>*[23]* | --- | --- | 1/Month<br>*[01/30]* | Calculate<br>*[CA]* |
| Settleable Solids<br>*[00545]* | --- | --- | --- | --- | --- | 0.3 ml/L<br>*[25]* | 1/Day<br>*[01/01]* | Grab<br>*[GR]* |
| Fecal Coliform Bacteria[(3)]<br>*[31616]* | --- | --- | --- | 15/100 ml[(4)]<br>*[13]* | --- | 50/100 ml<br>*[13]* | 5/Week<br>*[05/07]* | Grab<br>*[GR]* |
| Total Residual Chlorine[(5)]<br>*[50060]* | --- | --- | --- | 0.10 mg/L<br>*[19]* | --- | 0.20 mg/L<br>*[19]* | 2/Day<br>*[02/01]* | Grab<br>*[GR]* |
| pH<br>*[00400]* | --- | --- | --- | --- | --- | 6.0 – 9.0 SU<br>*[12]* | 1/Day<br>*[01/01]* | Grab<br>*[GR]* |

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

**FOOTNOTES: See Pages 11 through 16 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. The permittee is authorized to discharge **secondary treated municipal wastewater from Outfall #001A** to the Atlantic Ocean at Rockland Harbor. Such discharges shall be limited and monitored by the permittee as specified below[(1)]:

| Effluent Characteristic | Discharge Limitations | | | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Monthly Average<br>as specified | Weekly Average<br>as specified | Daily Maximum<br>as specified | Monthly Average<br>as specified | Weekly Average<br>as specified | Daily Maximum<br>as specified | Measurement Frequency<br>as specified | Sample Type<br>as specified |
| Arsenic (Total) (6)<br>*[01002]*<br>*(Upon permit issuance)* | Report lbs./day<br>*[26]* | --- | --- | Report µg/L<br>*[03]* | --- | --- | 1/Quarter<br>*[01/90]* | 24-Hour Composite *[24]* |
| Arsenic (Inorganic) (7)<br>*[01252]*<br>*(Upon test method approval)* | 0.24 lbs./day<br>*[26]* | --- | --- | 13.2 µg/L<br>*[03]* | --- | --- | 1/Year<br>*[01/YR]* | 24-Hour Composite *[24]* |
| Mercury (Total) (8)<br>*[50286]* | --- | --- | --- | 6.0 ng/L<br>*[3M]* | --- | 9.0 ng/L<br>*[3M]* | 1/Year<br>*[01/YR]* | Grab<br>*[GR]* |

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

**FOOTNOTES: See Pages 11 through 16 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

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

3. ***SURVEILLANCE LEVEL*** **-** Beginning upon issuance and lasting until 12 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and resuming 12 months prior to permit expiration (Year 5 of the term of the permit)**(1)**.

| Effluent Characteristic | Discharge Limitations | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type |
| Whole Effluent Toxicity(9)<br>Acute – NOEL<br>*Mysidopsis bahia* (Mysid Shrimp) *[TDA3E]* | --- | --- | --- | Report % *[23]* | 1/2 Years *[01/2Y]* | Composite *[24]* |
| Chronic – NOEL<br>*Arbacia punctulata* (Sea Urchin) *[TBH3A]* | --- | --- | --- | Report % *[23]* | 1/2 Years *[01/2Y]* | Composite *[24]* |
| Analytical Chemistry (10) *[51168]* | --- | --- | --- | Report µg/L *[28]* | 1/2 Years *[01/2Y]* | Composite/Grab *[24]* |

4. ***SCREENING LEVEL*** **-** Beginning 24 months prior to the expiration date of the permit and lasting through 12 months prior to permit expiration and every five years thereafter if a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit **(1)**.

| Effluent Characteristic | Discharge Limitations | | | | Minimum Monitoring Requirements | |
|---|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type |
| Whole Effluent Toxicity(9)<br>Acute – NOEL<br>*Mysidopsis bahia* (Mysid Shrimp) *[TDA3E]* | --- | --- | --- | Report% *[23]* | 2/Year *[02/YR]* | Composite *[24]* |
| Chronic – NOEL<br>*Arbacia punctulata* (Sea Urchin) *[TBH3A]* | --- | --- | --- | Report % *[23]* | 2/Year *[02/YR]* | Composite *[24]* |
| Analytical Chemistry (10) *[51168]* | --- | --- | --- | Report µg/L *[28]* | 1/Quarter *[01/90]* | Composite/Grab *[24]* |
| Priority Pollutants (11) *[50008]* | --- | --- | --- | Report µg/L *[28]* | 1/Year *[01/YR]* | Composite/Grab *[24]* |

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports. **FOOTNOTES: See Pages 11 through 16 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

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

5. The permittee is authorized to discharge **primary treated wastewater** from **OUTFALL #001C (SWIRL SEPARATOR)** to Rockland Harbor (**via Outfall #001A)** [(1)]. Such discharges may only occur in response to wet weather events when the flow rate through secondary treatment exceeds an instantaneous flow rate of **3,958 gpm (5.7 MGD)** [(12)] or in accordance with the most current approved High Flow Management Plan, and shall be limited and monitored as specified below. Approval of said bypass will be reviewed and may be modified or terminated pursuant to Special Condition O, *Reopening of Permit For Modification*.

| **Effluent Characteristic** | **Discharge Limitations** | | | | **Minimum Monitoring Requirements** | |
|---|---|---|---|---|---|---|
| | **Monthly Average** as specified | **Daily Maximum** as specified | **Monthly Average** as specified | **Daily Maximum** as specified | **Measurement Frequency** as specified | **Sample Type** as specified |
| Flow *[50050]* | --- | Report MGD *[03]* | --- | Report MGD *[03]* | Continuous *[99/99]* | Recorder *[RC]* |
| Total Flow *[82220]* | Report (MG/Month) [(13)] *[80]* | --- | --- | --- | 1/Month *[01/30]* | Calculate *[CA]* |
| Surface Loading Rate[(14)] *[50997]* | --- | Report GPD/SF *[07]* | --- | --- | 1/Discharge Day[(15)] *[01/DD]* | Calculate *[CA]* |
| Overflow Use, Occurrences[(16)] *[74062]* | --- | --- | Report # of Days *[93]* | --- | 1/Discharge Day[(15)] *[01/DD]* | Record Total *[RT]* |
| $BOD_5$ *[00310]* | --- | --- | --- | Report mg/L *[19]* | 1/Discharge Day[(15)] *[01/DD]* | 24-Hour Composite *[24]* |
| TSS *[00530]* | --- | --- | --- | Report mg/L *[19]* | 1/Discharge Day[(15)] *[01/DD]* | 24-Hour Composite *[24]* |
| Fecal Coliform Bacteria[(3), (17)] *[31616]* | --- | --- | --- | 200/100 ml *[13]* | 1/Discharge Day[(15)] *[01/DD]* | Grab *[GR]* |
| Total Residual Chlorine[(18)] *[50060]* | --- | --- | --- | 1.0 mg/L *[19]* | 1/Discharge Day[(15)] *[01/DD]* | Grab *[GR]* |

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

**FOOTNOTES: See Pages 11 through 16 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

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

6. The permittee is authorized to discharge **primary treated wastewater** from **OUTFALL #002A (SWIRL SEPARATOR)** to Rockland Harbor at Lermond Cove **(1)**. Such discharges may only occur in response to wet weather events when the flow rate through secondary treatment exceeds an instantaneous flow rate of **3,958 gpm (5.7 MGD) (12)** or in accordance with the most current approved High Flow Management Plan, and shall be limited and monitored as specified below. Approval of said bypass will be reviewed and may be modified or terminated pursuant to Special Condition O, *Reopening of Permit For Modification*.

| **Effluent Characteristic** | **Discharge Limitations** | | | | **Minimum Monitoring Requirements** | |
|---|---|---|---|---|---|---|
| | **Monthly Average** as specified | **Daily Maximum** as specified | **Monthly Average** as specified | **Daily Maximum** as specified | **Measurement Frequency** as specified | **Sample Type** as specified |
| Flow *[50050]* | --- | Report MGD *[03]* | --- | Report MGD *[03]* | Continuous *[99/99]* | Recorder *[RC]* |
| Total Flow *[82220]* | Report (MG/Month) **(13)** *[80]* | --- | --- | --- | 1/Month *[01/30]* | Calculate *[CA]* |
| Surface Loading Rate**(14)** *[50997]* | --- | Report GPD/SF *[07]* | --- | --- | 1/Discharge Day**(15)** *[01/DD]* | Calculate *[CA]* |
| Overflow Use, Occurrences**(16)** *[74062]* | --- | --- | Report # of Days *[93]* | --- | 1/Discharge Day**(15)** *[01/DD]* | Record Total *[RT]* |
| $BOD_5$ *[00310]* | --- | --- | --- | Report mg/L *[19]* | 1/Discharge Day**(15)** *[01/DD]* | 24-Hour Composite *[24]* |
| TSS *[00530]* | --- | --- | --- | Report mg/L *[19]* | 1/Discharge Day**(15)** *[01/DD]* | 24-Hour Composite *[24]* |
| Fecal Coliform Bacteria**(3), (17)** *[31616]* | --- | --- | --- | 200/100 ml *[13]* | 1/Discharge Day**(15)** *[01/DD]* | Grab *[GR]* |
| Total Residual Chlorine**(18)** *[50060]* | --- | --- | --- | 1.0 mg/L *[19]* | 1/Discharge Day**(15)** *[01/DD]* | Grab *[GR]* |

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

**FOOTNOTES: See Pages 11 through 16 of this permit for applicable footnotes.**

## SPECIAL CONDITIONS

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

### FOOTNOTES:

1. **Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services.

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

2. **Percent Removal –** The treatment facility shall maintain a minimum of 85 percent removal for both biochemical oxygen demand and total suspended solids for all flows receiving secondary treatment. The percent removal shall be calculated based on influent and effluent concentration values. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L.

3. **Bacteria Limits –** Fecal coliform bacteria limits and monitoring requirements (for secondary and primary treated waste waters) are seasonal and apply between May 15 and September 30 of each year. The Department reserves the right to require bacteria limits to be in effect on a year-round basis to protect the health and welfare of the public.

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

5. **TRC Monitoring** – Limitations and monitoring requirements are in effect any time elemental chlorine or chlorine-based compounds are utilized to disinfect the discharge(s). The permittee shall utilize a USEPA-approved test method capable of bracketing the TRC limitations specified in this permitting action.

**SPECIAL CONDITIONS**

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

**FOOTNOTES:**

6. **Arsenic (Total)** – Beginning upon the effective date of this modification and lasting through a date on which the USEPA approves a test method for inorganic arsenic, the permittee shall sample and analyze the discharge from the facility for total arsenic. The Department's most current reporting limit (RL) for total arsenic is 5 µg/L but may be subject to revision during the term of this permit. All detectable analytical test results shall be reported to the Department, including results which are detected below the Department's most current RL at the time of sampling and reporting. Only the detectable results greater than the 12-month rolling average total arsenic threshold of 35.4 µg/L (see page 20 of the Fact Sheet attached to this permit) or the Department's RL at the time (whichever is higher) will be considered as a possible exceedence of the inorganic limit. If a test result is determined to be a possible exceedence, the permittee shall submit a toxicity reduction evaluation (TRE) to the Department for review and approval within 45 days of receiving the test result of concern from the laboratory.

7. **Arsenic (Inorganic)** – The limitations and monitoring requirements for inorganic arsenic are not in effect until the USEPA approves of a test method for inorganic arsenic. See Special Condition J, *Schedule of Compliance – Inorganic Arsenic*, of this permit. Once effective, compliance will be based on a 12-month rolling average basis beginning 12 months after the effective date of the limits. Following USEPA approval of a test method for inorganic arsenic, and based on recent available data, the permittee may request that the Department reopen this permit in accordance with Special Condition I of this permit to establish a schedule of compliance for imposition of the numeric inorganic arsenic limitations.

8. **Mercury** – The permittee shall 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 shall be conducted in accordance with USEPA Method 1631, *Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.* See **Attachment B** for a Department report form for mercury test results. The limitation in the monthly average column in Special Condition A.2 of this permit is an arithmetic mean of all the mercury tests ever conducted for the facility utilizing sampling Methods 1669 and analysis Method 1631E.

9. **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 modified acute and chronic critical water quality thresholds of 15.38% and 1.37%, 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

**SPECIAL CONDITIONS**

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

**FOOTNOTES:**

the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and 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 resuming 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee shall conduct surveillance level WET testing at a minimum frequency of once every two years (reduced testing) using the mysid shrimp (*Mysidopsis bahia*) and the sea urchin (*Arbacia punctulata*). Acute tests shall be conducted on the mysid shrimp; chronic tests shall be conducted on the sea urchin. Surveillance tests shall be conducted in different calendar quarters.

b. **Screening level testing –** Beginning 24 months prior to the expiration date of the permit and lasting through 12 months prior to permit expiration and every five years thereafter if a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the permittee shall initiate screening level WET testing at a minimum frequency of twice per year using the mysid shrimp and sea urchin. Screening level tests shall be conducted in the calendar period between January and June and the other test conducted six months later.

Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 15.38% and 1.37%, respectively.

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

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

b. U.S. Environmental Protection Agency. 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, 3rd ed. EPA 821-R-02-014. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the marine chronic method manual).

## SPECIAL CONDITIONS

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

### FOOTNOTES:

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

10. **Analytical Chemistry** – Refers to a suite of chemical tests in **Attachment A** 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 resuming 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee shall conduct analytical chemistry testing at a minimum frequency of once every two years (except for those analytical chemistry parameters otherwise regulated in this permit). Surveillance tests shall be conducted in different calendar quarters.

    b. **Screening level testing** – Beginning 24 months prior to the expiration date of the permit and lasting through 12 months prior to permit expiration and every five years thereafter if a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the permittee shall conduct analytical chemistry testing at a minimum frequency of once per calendar quarter for four consecutive calendar quarters.

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

    Analytical chemistry and priority pollutant test results must be submitted to the Department not later than the next DMR required by the permit, provided, however, that the permittee may review the laboratory reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005). For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

**SPECIAL CONDITIONS**

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

**FOOTNOTES:**

11. **Priority Pollutant Testing –** Priority pollutants are those parameters specified at *Effluent Guidelines and Standards*, 06-096 CMR 525(4)(IV) (effective January 12, 2001).

    a. **Screening level testing** – Beginning 24 months prior to the expiration date of the permit and lasting through 12 months prior to permit expiration and every five years thereafter if a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the permittee shall conduct priority pollutant testing at a minimum frequency of once per year.

    Surveillance level priority pollutant testing is not required pursuant to 06-096 CMR 530(2)(D).

12. **Instantaneous Flow Rate –** The instantaneous flow rate limitation of 3,958 gallons per minute (5.7 MGD) is based on "*Table 2-1 Rockland, Maine WWTF Upgrade and CSO Abatement Program Design Criteria August 1997*." Additionally, the permittee is authorized to discharge primary treated wastewater to Rockland Harbor at Lermond Cove via Outfall #002A only when the deep-water outfall (Outfall #001A) is hydraulically limited.

13. **Total Flow** – The permittee shall report the total flow discharged in the month in million gallons (MG).

14. **Surface Loading Rate** – The surface loading rate is the average hourly rate per overflow occurrence in a discharge day. The permittee must provide this information to establish data on the effectiveness of peak flows receiving primary treatment.

15. **Discharge Day** – For the purposes of this permitting action, a discharge day is defined as a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

16. **Overflow Occurrences –** An overflow occurrence is defined as the period of time between initiation of flow from the primary bypass and ceasing discharge from the primary bypass. Overflow occurrences are reported in discharge days.

    For overflow occurrences exceeding one day in duration, sampling shall be performed each day of the event according to the measurement frequency specified. For example, if an overflow occurs for all or part of three discharge days, the permittee shall take three composite samples for $BOD_5$ and TSS, initiating samples at the start of the overflow and each subsequent discharge day thereafter and terminating samples at the end of the discharge day or the end of the overflow occurrence. Samples must be flow-proportioned.

## SPECIAL CONDITIONS

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

**FOOTNOTES:**

17. **Grab samples** – Grab samples for fecal coliform bacteria and total residual chlorine are not required to be collected when Outfall #001C or #002A are active for a single continuous discharge event lasting less than 60 minutes or during intermittent discharge events over a course of a 24-hour period lasting less than 120 minutes, and sampling is only required if said event(s) occur between the hours of 7:00 AM – 4:00 PM during the normal work week (Monday through Friday, holidays excluded).

    Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified. One composite sample for $BOD_5$ and TSS shall be collected per discharge day and shall be flow proportioned from each intermittent overflow during that 24-hour period. Only one grab sample for fecal bacteria and total residual chlorine is required to be collected per discharge day.

## B. NARRATIVE EFFLUENT LIMITATIONS

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

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

3. The discharge shall not cause visible discoloration or turbidity in the receiving waters, which would impair the usages designated 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.

## SPECIAL CONDITIONS

### C. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of a **Grade V** certificate (or Registered Maine Professional Engineer) pursuant to *Sewerage Treatment Operators*, 32 M.R.S.A. §§ 4171-4182. 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. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application accepted for processing by the Department on September 27, 2012; and 2) the terms and conditions of this permit and only from Outfall #001A (secondary treated wastewater), #001C (primary treated wastewater), and #002A (primary treated wastewater) identified in this permit. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

### E. NOTIFICATION REQUIREMENTS

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

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

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

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

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

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

## SPECIAL CONDITIONS

### F. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the wastewater collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system. The permittee shall 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. The IWS shall identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of the federal Clean Water Act, 40 CFR Part 403 (general pretreatment regulations) or *Pretreatment Program*, 06-096 CMR 528 (last amended March 17, 2008).

### G. MONITORING AND REPORTING

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

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

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

## SPECIAL CONDITIONS

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

**By December 31 of each calendar year**, the permittee shall provide the Department with a certification describing any of the following that have occurred since the effective date of this permit ***[PCS Code 95799]***. See **Attachment D** of the Fact Sheet for an acceptable certification form to satisfy this Special Condition.

a. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
b. Changes in the operation of the treatment works that may increase the toxicity of the discharge;
c. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge;

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

d. Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge; and
e. Increases in the type or volume of transported (hauled) wastes accepted by the facility.

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

### I. SCHEDULE OF COMPLIANCE – INORGANIC ARSENIC

**Beginning upon issuance of this permit** and lasting through a date on which the USEPA approves a test method for inorganic arsenic, the limitations and monitoring requirements for inorganic are not in effect. During this timeframe, the permittee is required by Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit to conduct 1/Quarter sampling and analysis for total arsenic.

Upon receiving written notification by the Department that a test method for inorganic arsenic has been approved by the USEPA, the limitations and monitoring requirements for inorganic arsenic become effective and enforceable and the permittee is relieved of its obligation to sample and analyze for total arsenic.

## SPECIAL CONDITIONS

### J. OPERATIONS AND MAINTENANCE (O&M) PLAN

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

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

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

### K. WET WEATHER MANAGEMENT PLAN

The permittee shall maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. A specific objective of the plan shall be to maximize the volume of wastewater receiving secondary treatment under all operating conditions. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

**Once the Wet Weather Management Plan has been approved, the permittee shall review their plan at least annually and record any necessary changes to keep the plan up to date.** The Department may require review and update of the plan as it is determined to be necessary.

### L. DISPOSAL OF TRANSPORTED WASTES IN WASTEWATER TREATMENT FACILITY

Pursuant to this permit and *Standards for the Addition of Transported Wastes to Waste Water Treatment Facilities,* 06-096 CMR 555 (last amended February 5, 2009), during the effective period of this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream up to **a daily maximum of 2,000 gallons per day** of transported wastes, subject to the following terms and conditions.

## SPECIAL CONDITIONS

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

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. Of the 2,000 GPD authorized by this permit, the permittee is authorized to receive and introduce into the treatment process or solids handling stream up to a daily maximum of 2,000 GPD of septage wastes.

3. 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.

4. The permittee shall ensure that at no time the addition of transported wastes causes or contributes to effluent quality violations. The permittee shall ensure that transported wastes do 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. The permittee shall ensure that odors and traffic from the handling of transported wastes do not result in adverse impacts to the surrounding community. If any adverse effects exist, the permittee shall suspended the receipt or introduction of transported wastes into the treatment process or solids handling stream until there is no further risk of adverse effects.

5. The permittee shall maintain records for each load of transported wastes in a daily log which shall include at a minimum the following.
   (a) The date;
   (b) The volume of transported wastes received;
   (b) The source of the transported wastes;
   (d) The person transporting the transported wastes;
   (e) The results of inspections or testing conducted;
   (f) The volumes of transported wastes added to each treatment stream; and
   (g) The information in (a) through (d) for any transported wastes refused for acceptance.
   The permittee shall maintain these records at the treatment facility for a minimum of five years.

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

## SPECIAL CONDITIONS

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

7. The permittee shall not record holding tank wastewater from domestic sources to which no chemicals in quantities potentially harmful to the treatment process have been added as transported wastes, but shall report this waste stream in the treatment facility's influent flow.

8. 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.

9. 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.

10. 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.

11. The authorization in this Special Condition 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.

## N. INDUSTRIAL PRETREATMENT PROGRAM

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

    a. The permittee shall develop and enforce specific effluent limits (local limits) 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 shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

## SPECIAL CONDITIONS

## N. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

**Within 180 days of the effective date of this permit**, *[PCS code 95979]* the permittee shall prepare and submit a written technical evaluation to the Department analyzing the need to revise local limits. As part of this evaluation, the permittee shall 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 shall complete the "Re-Assessment of Technically Based Local Limits" form included as **Attachment E** of this permit with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be 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 shall complete the revisions within 120 days of notification by the Department and submit the revisions to the Department for approval. The permittee shall carry out the local limits revisions in accordance with USEPA's document entitled, *Local Limits Development Guidance (July 2004).*

2. The permittee shall 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 (last amended March 17, 2008). At a minimum, the permittee shall 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 shall 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.

## SPECIAL CONDITIONS

### N. INDUSTRIAL PRETREATMENT PROGRAM (cont'd)

e. The permittee shall 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 must be consistent with the format described in the "MEPDES Permit Requirements For Industrial Pretreatment Annual Report" form included as Attachment F of this permit and must be submitted no later than October 15 of each calendar year.**

f. The permittee shall 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 shall 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.

h. The permittee shall 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,** *[PCS code 95979]* the permittee shall 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 shall address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee shall 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.

### O. PUMP STATION EMERGENCY BYPASSES

**Discharges from emergency bypass structures in pump stations are not authorized by this permit**. The permittee shall make provisions to monitor the overflow points identified below via an electronic flow estimation system to record frequency, duration and estimation of flow discharged.

| Outfall Number | Outfall Location | Receiving Water and Class |
|---|---|---|
| 002A | TP Wet Weather PS | Lermond Cove, Class SC |
| 003 | Park Street Pump Station | Rockland Harbor, Class SC |

The permittee shall report any discharges from the pump station(s) in accordance with Standard Condition B(5), *Bypasses*, of this permit.

## SPECIAL CONDITIONS

### P. REOPENING OF PERMIT FOR MODIFICATION

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

### 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

Printed 7/27/2009

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

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

| | |
|---|---|
| **Licensed Flow (MGD)** | |
| **Acute dilution factor** | |
| **Chronic dilution factor** | |
| **Human health dilution factor** | |
| **Criteria type: M(arine) or F(resh)** | **M** |

**Flow for Day (MGD)**[1] _____ **Flow Avg. for Month (MGD)**[2] _____

**Date Sample Collected** _____ Date Sample Analyzed _____

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

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) | | | | | (8) | | | | | |
| | Total Organic Carbon (mg/L) | | | | | NA | | | | | |
| | Total Solids (mg/L) | | | | | NA | | | | | |
| | Total Suspended Solids (mg/L) | | | | | NA | | | | | |
| | Salinity (ppt.) | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | **ANALYTICAL CHEMISTRY** [3] | | | | | | | | | | |
| | Also do these tests on the effluent with WET. Testing on the receiving water is optional | Reporting Limit | Effluent Limits, ug/L Acute[6] | Chronic[6] | Health[6] | | | Reporting Limit Check | **Possible Exceedence** [7] Acute | Chronic | Health |
| | TOTAL RESIDUAL CHLORINE (mg/L) (9) | 0.05 | | | | NA | | | | | |
| | AMMONIA | NA | | | | (8) | | | | | |
| M | ALUMINUM | NA | | | | (8) | | | | | |
| M | ARSENIC | 5 | | | | (8) | | | | | |
| M | CADMIUM | 1 | | | | (8) | | | | | |
| M | CHROMIUM | 10 | | | | (8) | | | | | |
| M | COPPER | 3 | | | | (8) | | | | | |
| M | CYANIDE | 5 | | | | (8) | | | | | |
| M | LEAD | 3 | | | | (8) | | | | | |
| M | NICKEL | 5 | | | | (8) | | | | | |
| M | SILVER | 1 | | | | (8) | | | | | |
| M | ZINC | 5 | | | | (8) | | | | | |

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

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

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

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

**Maine Department of Environmental Protection**
**WET and Chemical Specific Data Report Form**
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V | ACROLEIN | NA | | | | | | | | | |
| V | ACRYLONITRILE | NA | | | | | | | | | |
| V | BENZENE | 5 | | | | | | | | | |
| V | BROMOFORM | 5 | | | | | | | | | |
| V | CARBON TETRACHLORIDE | 5 | | | | | | | | | |
| V | CHLOROBENZENE | 6 | | | | | | | | | |
| V | CHLORODIBROMOMETHANE | 3 | | | | | | | | | |
| V | CHLOROETHANE | 5 | | | | | | | | | |
| V | CHLOROFORM | 5 | | | | | | | | | |
| V | DICHLOROBROMOMETHANE | 3 | | | | | | | | | |
| V | ETHYLBENZENE | 10 | | | | | | | | | |
| V | METHYL BROMIDE (Bromomethane) | 5 | | | | | | | | | |
| V | METHYL CHLORIDE (Chloromethane) | 5 | | | | | | | | | |
| V | METHYLENE CHLORIDE | 5 | | | | | | | | | |
| V | TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene) | 5 | | | | | | | | | |
| V | TOLUENE | 5 | | | | | | | | | |
| V | TRICHLOROETHYLENE (Trichloroethene) | 3 | | | | | | | | | |
| V | VINYL CHLORIDE | 5 | | | | | | | | | |

**Notes:**

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

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

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

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

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

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

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

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

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

Comments:

# ATTACHMENT B

Name of Facility: _____ Federal Permit # ME _____

Pipe # _____

Purpose of this test:

- ☐ Initial limit determination
- ☐ Compliance monitoring for: _____ calendar year _____ 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 certify 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 C

# 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 _____ Date Tested _____

mm/dd/yy 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** | | |

| Salinity Adjustment | |
|---|---|
| brine | |
| sea salt | |
| other | |

**place * next to values statistically different from controls**

| 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 D

# CHAPTER 530.2(D)(4) CERTIFICATION

MEPDES# _____ Facility Name _____

| Since the effective date of your permit have there been: | NO | YES (Describe in Comments) |
|---|---|---|
| 1. 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? | | |
| 2. changes in the operation of the treatment works that may **increase** the toxicity of the discharge? | | |
| 3. changes in industrial manufacturing processes contributing wastewater to the treatment works that may **increase** the toxicity of the discharge? | | |

COMMENTS:

Name(print) _____

Signature _____ Date _____

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

This form may be used to meet the requirements of Chap 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.

# ATTACHMENT E

**RE-ASSESSMENT OF TECHNICALLY BASED INDUSTRIAL DISCHARGE LIMITS**

Pursuant to federal regulation 40 CFR §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 §403.5(c)(1) and Department rule ***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 NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/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).

**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 §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

* 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, NPDES, 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 p., 3-28 in EPA's *Guidance Manual on the Development and Implementation of Local Limits Under the Pretreatment Program, 12/87*.

## 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 §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

* List in Column (2A) what the Water Quality Standards (WQS) 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 milligram per liter of Calcium Carbonate.

  List in Column (2B) the current WQSs or "Chronic Gold Book" values for each pollutant multiplied by the dilution ratio used in your new/reissued MEPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 20 mg/l - Calcium Carbonate (copper's chronic WQS equals 2.99 ug/l) the chronic MEPDES permit limit for copper would equal 75 ug/l.

## ITEM VII.

* In Column (1), list all pollutants (in micrograms per liter) limited in your new/reissued MEPDES permit. In Column (2), list all pollutants limited in your old/expired NPDES 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 §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.

In general, please be sure the units reported are correct and all pertinent information is included in your evaluation. If you have any questions, please contact your pretreatment representative at the Maine Department of Environmental Protection, Bureau of Land & Water Quality, Division of Engineering, Compliance & Technical Assistance, State House Station #17, Augusta, ME. 04333. The telephone number is (207) 287-3901.

**REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)**

POTW Name & Address _____

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

**ITEM II.**

EXISTING TBLLs

| POLLUTANT | NUMERICAL LIMIT (mg/l) | POLLUTANT | NUMERICAL LIMIT (mg/l) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**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 _____

**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.

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

**ITEM VI.**

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

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

*Hardness Dependent (mg/l-CaCO3)

**ITEM VII.**

In Column (1), identify all pollutants limited in your new/reissued MEPDES permit. In Column (2), identify all pollutants that were limited in your old/expired NPDES permit.

| **Column (1)** NEW PERMIT | | **Column (2)** OLD 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 was 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.

| | | **Columns** | |
|---|---|---|---|
| | **Column (1)** Biosolids Data Analyses Average (mg/kg) | **(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 F

**MEPDES PERMIT REQUIREMENT**
**FOR**
**INDUSTRIAL PRETREATMENT ANNUAL REPORT**

**1/** A narrative description **(paragraph)** of program effectiveness including the following:

- ***present and proposed changes*** to the program
  - Funding
  - Staffing
  - Ordinances
  - Regulations
  - Statutory authority
  - Other

*Our pretreatment program is very effective as indicated by the SIU compliance rate and the reduction in pollutant loading to the POTW.*

*The program is adequately funded and staffed to provide for annual training and completion of our regulatory responsibilities.*

*No changes have been made, or are proposed, to _____'s Sewer Use Ordinance. The SUO provides adequate statutory authority to enforce in Local, State and Federal courts.*

**2/** The **date** of the latest adoption of Local Limits and a statement as to whether the municipality is under a State or Federal compliance schedule that includes steps to be taken to revise Local Limits.

**If yes, Compliance Schedule; if no, schedule not needed.**

*_____'s Local Limits were last adopted (by local authority) on _____ and _____ is under no State or Federal compliance schedule that includes steps to be taken to revise Local Limits.*

**3/** A description of actions taken to reduce the incidence of violations by SIU's;
***Example: Inspections – Notifications – Information/Education***

4/ 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;

***Example: Evaluations/investigations as a result of Monitoring, Sewer Inspections, and Evaluations, Influent – Effluent results, Spills, Dumps, Toxicity, or Unusual events.***

**5/** A detailed description of all Interference and Pass Through that occurred during the past year; **[statement of: Event, Parameter, Violation, Cause, IU, POTW action, IU action, Result (see NOV #).**

_____ *experienced no events of Interference or Pass-Through in this reporting period. If "Yes" then describe.*

**6/** A thorough description of all investigations into Interference and Pass-Through during the past year;
***A paragraph: Violation, Problem, Steps to resolve, Result.***

*(same as 5/ or describe investigations.)*

**7/** An updated **list** of all industrial users by category (40 CFR 403.8(f)(2)(i), *indicating compliance or non-compliance* 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 limits

***Example:***

| ***SIU*** | ***New Promulgated BMR/Compliance Y/N)*** | ***Cat Limits Compliance (Y/N)*** | ***Local Limits Compliance (Y/N)*** | ***Semi-annual Reports Compliance (Y/N)*** |
|---|---|---|---|---|

**8/** A summary of compliance and enforcement activities during the preceding year including a:

- **list** of SIU's inspected by the POTW (dates, compliance status),
- **list** of SIU's sampled by the POTW (dates, compliance status),

***Example:***
***SIU Inspected Sampled/self Sampled/POTW Compliance Y/N***

- **list** of SIU's to which compliance schedules were issued,
  [SIU] - Violation - Compliance - Schedule
  ***N/A or schedule plus Progress Reporting Dates]***

- **summary list** of NOV's written to SIU's by name
  **[statement],**
- **summary list** of AO's written to SIU's by name
  **[statement],**
- **list** of criminal and/or civil suits filed by SIU,
  **[usually a simple statement]**
- **list** of penalty amounts obtained (by SIU) **[a statement].**

**NOTE:** Some items in numbers 9 & 10 may be combined in a chart, or charts. Be sure that any charts are logical, not cluttered, and don't contain an unreasonable amount of information.

Any violations should be shown separately, in summary, for each item.

**9/ List** of violating industries required to be published in a local newspaper (40 CFR 403.8(f)(2)(vii). **[Statement]**

**10/** A **summary** of all pollutant analytical results for:
- Influent **[Annual average – show violations]**
- Effluent **[Annual average – show violations]**
- Sludge **[Annual average– show violations]**
- Toxicity/Bioassay **[Annual Average – show violations]**

- **comparison** of influent sampling results versus threshold inhibitory concentrations for the POTW's wastewater treatment system.
- **comparison** of effluent sampling results versus water quality standards, considering the permitted dilution factor of the POTW.

NOTE: The sampling program shall be as described below OR any similar sampling program described in the NPDES permit. - At a minimum, annual sampling and analysis of/ the influent and effluent of the POTW's wastewater treatment plant shall be conducted on the following pollutants:

***Example:***

| | ***Influent*** | ***Inhibition*** | ***Effluent*** | ***AWC*** | |
|---|---|---|---|---|---|
| | | | | ***Acute*** | ***Chronic*** |
| **- Total Cadmium** | | | | | |
| **- Total Chromium** | | | | | |
| **- Total Copper** | | | | | |
| **- Total Lead** | | | | | |
| **- Total Mercury** (Methods 1669 & 1631) | | | | | |
| **- Total Nickel** | | | | | |
| **- Total Silver** | | | | | |
| **- Total Zinc** | | | | | |
| **- Total Cyanide** | | | | | |
| **- Total Arsenic** | | | | | |

The sampling program shall consist of one 24-hour flow-proportioned composite that is representative of the flow received by the POTW.

The composite shall consist of accurately flow-proportioned grab samples taken over a discharge day if the samples are collected manually, or shall consist of a minimum of 48 accurately flow-proportioned samples if an automatic sampler is used. Sampling and preservation shall be according to 40 CFR part 136.

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

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

Date: **JANUARY 14, 2012**

PERMIT NUMBER: **#ME0100595**
WASTE DISCHARGE LICENSE: **#W000681-5M -K-R**

NAME AND ADDRESS OF APPLICANT:

**CITY OF ROCKLAND**
**40 TILLSON AVENUE**
**ROCKLAND, ME 04841-3417**

COUNTY: **KNOX**

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

**ROCKLAND WASTEWATER TREATMENT FACILITY**
**40 TILLSON AVENUE**
**ROCKLAND, ME 04841-3417**

RECEIVING WATER/CLASSIFICATION: **ROCKLAND HARBOR/CLASS SC**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **MR. DAVID BOLSTRIDGE**
**dbolstridge@ci.rockland.me.us**
**(207) 594-0324**

## 1. APPLICATION SUMMARY

Application: The City of Rockland (City) has submitted a timely and complete application to the Department of Environmental Protection (Department) for renewal of Waste Discharge License (WDL) #W000681-5M-G-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0100595, which was issued on December 21, 2007, and expired on December 21, 2012. The 12/21/07 MEPDES permit authorized the City to discharge an unspecified quantity of secondary treated municipal wastewater and an unspecified quantity of primary treated municipal wastewater from a publicly owned treatment works (POTW) to the Atlantic Ocean at Rockland Harbor, Class SC, in Rockland, Maine. It is noted that the average design criterion of the facility is 3.3 million gallons per day (MGD). The 12/21/07 permit authorized the discharge of an unspecified quantity of excess combined sanitary and storm water wastewater from two (2) combined sewer overflow (CSO) points to the Atlantic Ocean at Rockland Harbor, Class SC, in Rockland, Maine.

## 1. APPLICATION SUMMARY (cont'd)

The Department issued: a minor permit revision on January 31, 2008 to correct typographical errors and other non-substantive errata; a permit modification on November 21, 2009 to update dilution factors and water quality-based effluent limitations based on an outfall upgrade project; a permit modification on August 19, 2010 to revise the total arsenic concentration threshold based on a statistical evaluation of effluent data for total and inorganic arsenic; and a minor permit revision on February 6, 2012 to revise the mercury monitoring frequency.

## 2. PERMIT SUMMARY

a. Terms and Conditions: **This permitting action is similar to the 12/21/07 permitting action, two minor permit revisions and two permit modifications in that it is:**

*Secondary Treated Wastewater (Outfall #001A)*

1. Carrying forward the monthly average and daily maximum discharge flow reporting requirements;

2. Carrying forward the monthly average, weekly average and daily maximum concentration limits for biochemical oxygen demand ($BOD_5$) and total suspended solids (TSS);

3. Carrying forward the monthly average and weekly average technology-based mass limits for $BOD_5$ and TSS;

4. Carrying forward the daily maximum mass reporting requirements for $BOD_5$ and TSS;

5. Carrying forward the requirement for a minimum of 85% removal of $BOD_5$ and TSS;

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

7. Carrying forward the seasonal monthly average and the daily maximum concentration limits for fecal coliform bacteria;

8. Carrying forward the technology-based monthly average and water quality-based daily maximum concentration limits for total residual chlorine (TRC);

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

10. Carrying forward whole effluent toxicity (WET), priority pollutant and analytical chemistry testing requirements pursuant to *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005);

## 2. PERMIT SUMMARY (cont'd)

*Secondary Treated Wastewater (Outfall #001A)*

11. Carrying forward water quality-based monthly average concentration and mass limits for inorganic arsenic and a daily maximum concentration reporting requirement for total arsenic based on the results of facility testing;

12. Carrying forward previous Special Condition I, *Schedule of Compliance – Inorganic Arsenic*, for imposition of the arsenic limits;

13. Carrying forward authorization to accept and introduce into the treatment works a daily maximum of up to 2,000 gallons per day of septage wastes from local haulers;

*CSO-Related Bypasses of Secondary Treatment (Outfall #001C and #002A)*- For the purposes of this permitting action, this term refers to structures and or processes at the wastewater treatment facility that provide equivalent to primary treatment and disinfection of wastewater that bypasses the biological treatment portion of the facility.

14. Carrying forward the primary treated wastewater bypass threshold of 5.7 MGD;

15. Carrying forward the daily maximum reporting requirements for discharge flow, $BOD_5$, TSS, and surface loading rate;

16. Carrying forward the monthly average reporting requirements for discharge flow and overflow occurrences;

17. Carrying forward daily maximum concentration limits for fecal coliform bacteria of 200 colonies/100 ml and 1.0 mg/L for TRC; and

**This permitting action is different from the 12/21/07 permitting action, two minor permit revisions and two permit modifications in that it is**

*Secondary Treated Wastewater (Outfall #001A)*

1. Revising previous Special Condition H, now called *06-096 CMR 530(2)(D)(4) Statement for Reduced Waived Toxics Testing*, to include certification requirements for inflow/infiltration and transported wastes that may increase the toxicity of the discharge;

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

*CSO-Related Bypasses of Secondary Treatment (Outfall #001C and #002A)*

3. Eliminating the reporting requirements for $BOD_5$ percent removal and TSS percent removal;

## 2. PERMIT SUMMARY (cont'd)

*Facility-Wide*

4. Revising previous Special Condition M, now called *Disposal of Transported Wastes in Wastewater Treatment Facility*, based on the revised rule, *Standards for the Addition of Transported Wastes to Waste Water Treatment Facilities,* 06-096 CMR 555 (last amended February 5, 2009);

5. Adding previous CSO outfall #003 to Special Condition O, *Pump Station Emergency Bypasses*; and

*Combined Sewer Overflows*

6. Eliminating authorization to discharge excess combined sanitary and storm water wastewater via Outfalls #003 and #009 as the City has completed its CSO abatement plan.

b. History: This section provides a summary of the most recent significant licensing and permitting actions completed for the Rockland facility as well as other significant regulatory actions.

March 6, 1998 – Pursuant to *Combined Sewer Overflow Abatement*, 06-096 CMR 570 (last amended February 8, 1978), the City submitted a combined sewer overflow (CSO) Master Plan to the Department.

August 25, 1998 – The USEPA issued a renewal of National Pollutant Discharge Elimination System (NPDES) permit #ME0100595 to the City. The 8/25/98 permit superseded NPDES permits issued to the City by the USEPA on May 14, 1993 and May 29, 1985 (earliest NPDES permit on file with the Department).

June 7, 2000 – Pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Waste discharge licenses*, 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001), the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL #W000681-47-D-M by establishing interim monthly average and daily maximum effluent concentration limits of 6.0 parts per trillion (ppt) and 9.0 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury.

January 12, 2001 – The Department received authorization from the USEPA to administer the NPDES permit program in Maine, excluding areas of special interest to Maine Indian Tribes. From that point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program, and MEPDES permit #ME0100595 has been utilized for this facility.

## 2. PERMIT SUMMARY (cont'd)

December 21, 2007 – The Department issued WDL #W000681-5M-G-R to the City for a five-year term. The 12/21/07 permit superseded WDL #W000681-5M-E-R issued on June 13, 2001, WDL Modification #W000681-47-D-M issued on December 6, 1995, WDL #W000681-47-C-R issued on May 28, 1991, WDL #W000681-47-A-R issued on October 23, 1985, and WDL #681 issued on August 13, 1980.

September 2010 – The City physically blocked off CSO #009 at the Landing, eliminating its ability to overflow.

December 23, 2010 – The City installed an emergency overflow level indicator alarm and data recorder at CSO #003 at the Park Street pump station. With this equipment installation, the City requested that this overflow be reclassified as an emergency bypass.

January 7, 2011 – The Department notified the City that, as requested, it was being eliminated from the active CSO community list. This completed CSO abatement for the City.

September 24, 2012 – The City submitted a timely and complete General Application to the Department for renewal of the 12/21/07 MEPDES permit (including subsequent minor permit revisions and permit modifications). The application was accepted for processing on September 27, 2012 and was assigned WDL #W000681-5M-G-R / MEPDES #ME0100595.

c. Source Description: The City's wastewater treatment facility treats residential, commercial and industrial process wastewater from entities within the City of Rockland. The City has eliminated the last two CSO outfalls identified in the previous permit.

The largest industrial user is FMC Biopolymer which reduces seaweed to produce suspension aids for food grade products, such as toothpaste and ice cream. The facility also receives and treats landfill leachate from the City's landfill located in a quarry approximately three miles from the treatment facility. Leachate is conveyed to the treatment facility via a pipeline and pump stations. The City adds hydrogen peroxide at an intermediate pump station to control odors in the leachate piping system. Landfill leachate flows treated on any given day may be as high as 0.50 MGD.

The facility is authorized to treat up to 2,000 gallons per day of septage from local septage haulers. The City has submitted an updated Septage Management Plan, which has been reviewed and approved by the Department, as part of their September 27, 2012 renewal application.

Outfall #001A is the secondary treated wastewater outfall. Outfall #001C is an administrative outfall designator used to track primary treated wastewater flows from the swirl separator and high-rate disinfection system. Primary treated flows from Outfall identifier #001C may be discharged through Outfall 001A or #002A depending on hydraulic conditions. The City stated that Outfall #002A may convey primary treated effluent from the swirl separator and high-rate disinfection structures or effluent from the secondary treatment system.

## 2. PERMIT SUMMARY (cont'd)

A map created by the Department showing the location of the treatment system and all outfall points is included as Fact Sheet **Attachment A**.

d. Wastewater Treatment: The City's wastewater treatment facility was upgraded in 1999-2000 to increase the monthly average design flow of the facility from 2.9 MGD to 3.3 MGD and provide the facility with the ability to provide primary treatment and disinfection for instantaneous peak wet weather flows of up 33.6 MGD through a swirl separator. The facility provides a secondary level of treatment for dry weather flows received at the facility via a dry and wet weather influent pump station, one mechanical bar screen, a grit chamber, a flow distribution structure, two primary clarifiers, six covered aeration basins with fine bubble diffused aeration, two secondary clarifiers and two chlorine contact chambers where seasonal disinfection is achieved using sodium-hypochlorite and dechlorination is achieved using sodium bisulfite. The outfall pipe for the secondary treated wastewater is a 36-inch diameter reinforced concrete pipe that extends approximately 500 feet out into Rockland Harbor off of Park Street and is submerged to a depth of approximately 10 feet below the surface at mean low water. The diffuser was upgraded in 2009 to increase the number of diffuser ports to 28 to improve mixing of the effluent with the receiving waters.

In addition to the secondary wastewater treatment component of the facility, a wet weather treatment component is also in service at the facility. During rainfall and snowmelt events when excessive inflow and infiltration (I/I) in the collection system exceeds the capacity of the dry weather pumping capacity, excess flow is hydraulically diverted to the wet weather pumping wet well and then to the swirl concentrator and disinfection tank**,** then to a point in the plant's outfall pipe after the chlorine contact chamber. The concentrated underflow from the swirl separator is conveyed back to the headworks of the treatment facility for secondary treatment. The primary treated effluent is disinfected by a high rate disinfection system designed to meet Department best practicable treatment (BPT) daily maximum fecal coliform bacteria limits of 200 colonies/100 ml. It is noted that during extreme high tide events, the main outfall pipe #001A is subject to surcharging which, in turn, restricts the discharge flow rate.

When the swirl separator is active during a extreme high tide event, flows exceeding the restricted capacity of Outfall #001A are diverted to Outfall #002A, commonly referred to as the Lermond Cove outfall. Under an emergency condition, flows exceeding dry weather and wet weather pumping capacities will exit the wet weather wet well via a 42-inch diameter emergency bypass pipe where it is discharged, untreated, through Outfall #002A (Lermond Cove).

A schematic of the treatment system is included as Fact Sheet **Attachment B**.

## 3. CONDITIONS OF PERMITS

*Conditions of licenses*, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A. § 420 and 06-096 CMR 530 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

*Classifications of estuarine and marine waters*, 38 M.R.S.A. § 469 classifies the Atlantic Ocean at Rockland Harbor, as Class SC waters. *Standards for classification of estuarine and marine waters*, 38 M.R.S.A. § 465-B(3) describes the standards for Class SC waters.

## 5. RECEIVING WATER QUALITY CONDITIONS

*The State of Maine 2010 Integrated Water Quality Monitoring and Assessment Report*, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists the estuarine and marine waters at Rockland as, "Category 4-A: Estuarine and Marine Waters with Impaired Use, TMDL Completed." The Report states that bacteria may impair either recreational uses (swimming) or shellfish consumption uses, or both. Shellfish consumption impairments only apply to waters naturally capable of supporting the shellfish-harvesting use (*i.e.*, waters of high enough salinity for propagation of shellfish.) On September 28, 2009, the USEPA approved the Department's Maine Statewide Bacteria TMDL (Total Maximum Daily Loads), dated August 2009, for fresh, marine and estuarine waters impaired by bacteria.

The City has completed its CSO abatement plan and is no longer considered a CSO community. The Department has no information that the discharge from the City causes or contributes to violations water quality standards.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting action established a monthly average discharge flow limit of 3.3 MGD based on the design capacity for the treatment facility, and a daily maximum discharge flow reporting requirement. After considerable discussion and negotiation with the permittee, the previous permitting action eliminated the monthly average discharge flow limitation in order to encourage the facility to maximize its secondary treatment capability. This decision encourages the City to process as much storm water as possible through the secondary treatment units while holding the effluent to numeric pollutant loading limits. That action shall in no way be interpreted or construed to mean that the average design capacity for the treatment plant is greater than or less than the 3.3 MGD design criterion. Mass limitations established in this permitting action shall be calculated based on an average discharge flow (design capacity) of 3.3 MGD.

## 2. PERMIT SUMMARY (cont'd)

The following table summarizes effluent data reported on Discharge Monitoring Reports (DMRs) for the period of January 2008 through January 2012.

**Flow (DMRs=49) Outfall #001A**

| Value | Limit (MGD) | Range (MGD) | Mean (MGD) |
|---|---|---|---|
| Monthly Average | 3.3 (design) | 1.90 – 4.10 | 2.89 |
| Daily Maximum | n/a | 2.80 – 5.80 | 4.31 |

Swirl Separator (Primary Treated Wastewater via Outfalls #001C and #002A)

The previous permitting action established monthly average and daily maximum discharge flow reporting requirements for primary treated wastewater discharged via the swirl separator (Outfall #001C and #002A).

The following table summarizes effluent data reported on Discharge Monitoring Reports (DMRs) for the period of January 2008 through January 2012.

**Flow (DMRs=48) Outfall #001C**

| Value | Limit (MGD) | Range (MGD) | Mean (MGD) |
|---|---|---|---|
| Monthly Average | n/a | 0.1 – 4.8 | 1.69 |
| Daily Maximum | n/a | 0.2 – 11.2 | 4.72 |

**Flow (DMRs=34) Outfall #002A**

| Value | Limit (MGD) | Range (MGD) | Mean (MGD) |
|---|---|---|---|
| Monthly Average | n/a | 0.0 – 5.60 | 0.65 |
| Daily Maximum | n/a | 0.0 – 5.6 | 0.76 |

This permitting action is carrying forward the monthly average and daily maximum discharge flow reporting requirements for primary treated wastewater discharged via the swirl separator (Outfall #001C and #002A) consistent with the monitoring and reporting requirements established in MEPDES permits for other facilities authorized to discharge primary treated wastewater.

b. Dilution Factors: 06-096 CMR 530(4)(A)(2)(a) 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."* Based on the configuration of the proposed Outfall #001A modifications and increase in number of upward-facing diffuser ports from 14 to 28 and a monthly average discharge flow design criterion of 3.3 million gallons per day (MGD), dilution factors associated with the discharge of secondary treated waste waters via Outfall #001A following the outfall improvements are as follows:

## 2. PERMIT SUMMARY (cont'd)

Acute = 18.2:1 Chronic = 139.7:1 Harmonic mean[1] = 419.0:1

c. Biochemical Oxygen Demand ($BOD_5$) and Total Suspended Solids (TSS): The previous permitting action established, and this permitting action is carrying forward, monthly average and weekly average technology-based concentration limits of 30 mg/L and 45 mg/L, respectively, for $BOD_5$ and TSS based on the secondary treatment requirements specified at *Effluent Guidelines and Standards*, 06-096 CMR 525(3)(III) (effective January 12, 2001), and a daily maximum concentration limit of 50 mg/L, which is based on a Department best professional judgment of best practicable treatment for secondary treated wastewater. The technology-based monthly average and weekly average mass limits of 826 lbs./day and 1,239 lbs./day, respectively, established in the previous permitting action for $BOD_5$ and TSS are based on the monthly average flow design criterion of 3.3 MGD and the applicable concentration limits, and are also being carried forward in this permitting action. This permitting action is carrying forward a requirement for a minimum of 85% removal of $BOD_5$ & TSS pursuant to 06-096 CMR 525(3)(III)(a&b)(3).

To encourage the City to treat as much wastewater as possible through the secondary treatment system during wet weather events, the previous permit did not establish numeric daily maximum mass limitations for $BOD_5$ or TSS. This permitting action is carrying forward daily maximum mass reporting requirements for $BOD_5$ and TSS consistent with the determination made by the Department in the 2007 permit.

A summary of the effluent $BOD_5$ data as reported on the DMRs submitted to the Department for the period January 2008 through January 2012 follows.

**$BOD_5$ Mass (DMRs=49)**

| Value | Limit (lbs/day) | Range (lbs/day) | Mean (lbs/day) |
|---|---|---|---|
| Monthly Average | 826 | 152 – 924 | 471 |
| Weekly Average | 1,238 | 210 – 1,439 | 661 |
| Daily Maximum | Report | 240 – 2,486 | 971 |

**$BOD_5$ Concentration (DMRs=49)**

| Value | Limit (mg/L) | Range (mg/L) | Mean (mg/L) |
|---|---|---|---|
| Monthly Average | 30 | 8 – 31 | 18 |
| Weekly Average | 45 | 9 – 47 | 25 |
| Daily Maximum | 50 | 13 – 75 | 35 |

During this time period, the City reported a total of 15 excursions from the numeric $BOD_5$ limits.

[1] The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the U.S. EPA publication, "*Technical Support Document for Water Quality-Based Toxics Control"* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

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

A summary of the effluent TSS data as reported on the DMRs submitted to the Department for the period January 2008 through January 2012 follows.

**TSS Mass (DMRs=49)**

| Value | Limit (lbs/day) | Range (lbs/day) | Mean (lbs/day) |
|---|---|---|---|
| Monthly Average | 826 | 307 – 895 | 562 |
| Weekly Average | 1,238 | 327 – 1,752 | 801 |
| Daily Maximum | Report | 610 – 4,394 | 1,328 |

**TSS Concentration (DMRs=49)**

| Value | Limit (mg/L) | Range (mg/L) | Mean (mg/L) |
|---|---|---|---|
| Monthly Average | 30 | 13 – 37 | 24 |
| Weekly Average | 45 | 14 – 110 | 32 |
| Daily Maximum | 50 | 23 – 278 | 52 |

During this time period, the City reported a total of 19 excursions from the numeric TSS limits.

In consideration of the compliance history with $BOD_5$ & TSS, this permitting action is carrying forward the minimum monitoring frequency requirement of three times per week.

Primary Treated Wastewater via Outfall #001C and Outfall #002A

The previous permitting action established, and this permitting action is carrying forward, daily maximum concentration reporting requirements for $BOD_5$ and TSS for primary treated wastewater discharged via Outfalls #001C and #002A. The previous permitting action established monthly average percent removal reporting requirements which are being eliminated in this permitting action as the Department has determined that they have not been particularly useful in assessing the performance of the primary treatment system.

The Department has summarized effluent $BOD_5$ and TSS data for primary treated wastewater for the period of January 2008 through January 2012 as follow.

**$BOD_5$ Concentration – Primary Treatment**

| Daily Maximum | Limit (mg/L) | Range (mg/L) | Mean (mg/L) | #DMRs |
|---|---|---|---|---|
| Outfall #001C | Report | 23 – 205 | 71 | 47 |
| Outfall #002A | Report | 18 – 95 | 50 | 27 |

**TSS Concentration – Primary Treatment**

| Daily Maximum | Limit (mg/L) | Range (mg/L) | Mean (mg/L) | #DMRs |
|---|---|---|---|---|
| Outfall #001C | Report | 52 – 459 | 163 | 47 |
| Outfall #002A | Report | 23 – 245 | 107 | 34 |

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

d. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a technology-based daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for secondary treated wastewater.

A summary of effluent settleable solids data as reported on the DMRs submitted to the Department for the period January 2008 through January 2012 follows.

**Settleable Solids Concentration (DMRs= 49)**

| Value | Limit (ml/L) | Range (ml/L) | Mean (ml/L) |
|---|---|---|---|
| Daily Maximum | 0.3 | 0.1 – 28 | 0.2[2] |

During this time period, the City reported a total of 4 excursions from the numeric settleable solids limit.

In consideration of the compliance history with settleable solids, this permitting action is carrying forward the minimum monitoring frequency requirement of once per day.

e. Fecal Coliform Bacteria: The previous permitting action established, and this permitting action is carrying forward, seasonal monthly average and daily maximum concentration limits of 15 colonies/100 ml and 50 colonies/100 ml, respectively, for fecal coliform bacteria, which are consistent with the National Shellfish Sanitation Program. Bacteria limits are seasonal and apply between May 15 and September 30 of each year, however, the Department reserves the right to require year-round disinfection to protect the health, safety and welfare of the public.

A summary of effluent fecal coliform data as reported on the DMRs for the period January 2008 through January 2012 (applicable months only) follows:

**Fecal coliform bacteria (DMR = 20)**

| Value | Limit (col/100 mL) | Range (col/100 mL) | Mean (col/100 mL) |
|---|---|---|---|
| Monthly Average | 15 | 2 – 12 | 4 |
| Daily Maximum | 50 | 6 – 2,419 | 197 |

During this time period, the City reported a total of 15 excursions from the numeric bacteria limits.

In consideration of compliance history with fecal coliform bacteria, this permitting action is carrying forward the minimum monitoring frequency requirement of five times per week.

[2] It is noted that the mean of 0.2 ml/L was calculated excluding the outlying data point of 28 ml/L reported for January 2012.

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

Swirl Separator (Primary Treated Wastewaters)

The previous permitting action established a seasonal (May 15-Septebmer 30) daily maximum concentration limitation of 200 colonies/100 ml for fecal coliform bacteria for primary treated wastewater discharge via the swirl separator (Outfalls #001C and #002A). This limitation is based on based on Department best professional judgment of best practicable treatment for primary treated wastewater.

**Fecal coliform bacteria – Primary Treatment**

| Daily Maximum | Limit (col/100 mL) | Range (col/100 mL) | Mean (col/100 mL) | #DMRs |
|---|---|---|---|---|
| Outfall #001C | 200 | 1 – 1,450 | 147 | 14 |
| Outfall #002A | 200 | 1 – 270 | 87 | 6 |

During this time period, the City reported a total of 2 excursions from the numeric bacteria limits for Outfall #001C and 1 excursion for Outfall #002A.

This permitting action is carrying forward the daily maximum technology-based limit of 200 colonies/100 ml for fecal coliform bacteria for primary treated wastewater discharged via the swirl separator (Outfalls #001C and #002A) consistent with the monitoring and reporting requirements established in MEPDES permits for other facilities authorized to discharge primary treated wastewater.

f. Total Residual Chlorine (TRC): The previous permitting action and November 21, 2009 permit modification established technology-based monthly average and water quality-based daily maximum concentration limits of 0.1 mg/L and 0.2 mg/L, respectively, for TRC. Limitations on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Department permitting actions impose the more stringent of either a water quality-based or BPT-based limit. With dilution factors as determined above, end-of-pipe (EOP) water quality-based concentration thresholds for TRC may be calculated as follows:

| Acute (A) Criterion | Chronic (C) Criterion | A & C Dilution Factors | Calculated Acute Threshold | Chronic Threshold |
|---|---|---|---|---|
| 0.013 mg/L | 0.0075 mg/L | 18.2:1 (A)<br>139.7:1 (C) | 0.2 mg/L | 1.1 mg/L |

The Department has established a daily maximum BPT limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds. For facilities that need to dechlorinate the discharge in order to meet water quality-based thresholds, the Department has established daily maximum and monthly average BPT limits of 0.3 mg/L and 0.1 mg/L, respectively. The City dechlorinates the effluent prior to discharge in order to achieve compliance with the water quality-based thresholds. The calculated acute water quality-based threshold of 0.2 mg/L is more stringent than the daily maximum technology-based standard of 0.3 mg/L and is therefore being carried forward in this permitting action. The monthly average technology-based

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

standard of 0.1 mg/L is more stringent than the calculated chronic water quality-based threshold of 1.1 mg/L and is therefore being carried forward in this permitting action.

A summary of the effluent TRC data for the period January 2008 through January 2012 (applicable disinfection period only) follows.

**Total residual chlorine (DMRs=20)**

| Value | Limit (mg/L) | Range (mg/L) | Mean (mg/L) |
|---|---|---|---|
| Monthly Average | 0.1 | 0.01 – 0.40 | 0.05 |
| Daily Maximum | 0.2 | 0.02 – 10 | 0.8 |

During this time period, the City reported a total of 6 excursions from the numeric TRC limits.

In consideration of compliance history with TRC, this permitting action is carrying forward the minimum monitoring frequency requirement of twice per day.

Swirl Separator (Primary Treated Wastewaters)

The previous permitting action established a daily maximum concentration limitation of 1.0 mg/L for TRC for primary treated wastewater discharge via the swirl separator (Outfalls #001C and #002A). This limitation is based on based on Department best professional judgment of best practicable treatment for primary treated wastewater.

A summary of the effluent TRC data for the period January 2008 through January 2012 follows.

**Total residual chlorine – Primary Treatment**

| Daily Maximum | Limit (mg/L) | Range (mg/L) | Mean (mg/L) | #DMRs |
|---|---|---|---|---|
| Outfall #001C | 1.0 | 0.01 – 1.75 | 0.25 | 15 |
| Outfall #002A | 1.0 | 0.0 – 1.75 | 0.26 | 7 |

During this time period, the City reported a total of 2 excursions from the numeric TRC limits for Outfall #001C and 1 excursion for Outfall #002A.

This permitting action is carrying forward the daily maximum technology-based limit of 1.0 mg/L for TRC for primary treated wastewater discharged via the swirl separator (Outfalls #001C and #002A) consistent with the requirements established in MEPDES permits for other facilities authorized to discharge primary treated wastewater.

g. pH: The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units (SU), which is based on 06-096 CMR 525(3)(III), and a minimum monitoring frequency requirement of once per day.

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

The DMR data indicate the facility has been in compliance with the pH range limitation 100% of the time during the period of January 2008 through January 2011 (# DMRs = 49).

In consideration of the compliance history with pH, this permitting action is carrying forward the minimum monitoring frequency requirement of once per day.

h. Mercury: Pursuant to 38 M.R.S.A. § 420 and 38 M.R.S.A. § 413 and 06-096 CMR 519, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL #W000681-47-D-M by establishing interim monthly average and daily maximum effluent concentration limits of 6.0 parts per trillion (ppt) and 9.0 ppt, respectively, and a minimum monitoring frequency requirement of 4 tests per year for mercury.

38 M.R.S.A. § 420(1-B)(B)(1) provides that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department. A review of the Department's database for the period January 2004 through April 2012 is as follows.

**Mercury (n = 34)**

| Value | Limit (ng/L) | Range (mg/L) | Mean (mg/L) |
|---|---|---|---|
| Monthly Average | 6.0 | 1.11 – 18.1 | 5.0 |
| Daily Maximum | 9.0 | | |

On February 6, 2012, the Department issued a minor revision to the December 21, 2007 permit thereby revising the minimum monitoring frequency requirement from once per quarter to once per year pursuant to 38 M.R.S.A. § 420(1-B)(F).

### *Whole Effluent Toxicity (WET), Priority Pollutant, and Analytical Chemistry Testing*

38 M.R.S.A. § 414-A and 38 M.R.S.A. § 420 prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. 06-096 CMR 530 sets forth effluent monitoring requirements and procedures to establish safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected and narrative and numeric water quality criteria are met. 06-096 CMR 584 sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing, as required by 06-096 CMR 530, is included in this permit in order to characterize the effluent. WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on the mysid shrimp (*Mysidopsis bahia*) and the sea urchin (*Arbacia punctulata*). Chemical-specific monitoring is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health

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

water quality criteria. Priority pollutant testing refers to the analysis for levels of priority pollutants listed in 06-096 CMR 525(4)(VI). Analytical chemistry refers to a suite of thirteen (13) chemical tests consisting of: ammonia-nitrogen, total aluminum, total cadmium, total chromium, total copper, total hardness (fresh water only), total lead, total nickel, total silver, total zinc, total arsenic, total cyanide and total residual chlorine.

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

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

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

06-096 CMR 530(2)(B) categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV). Level III dischargers are those dischargers having a chronic dilution factor of $\geq$100:1 but <500:1 or >500:1 and Q $\geq$1.0 MGD. The chronic dilution factor associated with the discharge from the City is 139.7:1; therefore, this facility is considered a Level III facility for purposes of toxics testing.

06-096 CMR 530(2)(D) specifies default WET, priority pollutant, and analytical chemistry test schedules for Level III dischargers as follows.

**Surveillance level testing** – Beginning upon issuance of the permit and lasting through 12 months prior to permit expiration.

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

**Screening level testing** – Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter.

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

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

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

i. Whole Effluent Toxicity (WET) 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, appropri ate water quality-based limits must be established in any licensing action.

On January 11, 2013, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department for the City in accordance with the statistical approach outlined above. **The 1/11/13 statistical evaluation indicates the discharge from the Rockland Pollution Control Facility has not exceeded or demonstrated a reasonable potential to exceed the critical acute or chronic ambient water quality thresholds for the mysid shrimp or sea urchin.** See **Attachment C** of this Fact Sheet for a summary of the WET test results.

06-096 CMR 530(2)(D)(3)(b) states, "Dischargers in Levels III and IV may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedences….." Based on the provisions of 06-096 CMR 530 and Department best professional judgment, this permitting action is establishing reduced testing (waived surveillance level WET testing).

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.

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

Special Condition H of the previous permit established, *06-096 CMR 530(2)(D)(4) Statement For Reduced Toxics Testing*, pursuant to 06-096 CMR 530(2)(D)(4). This permitting action is revising previous Special Condition H to include certification requirements for inflow/infiltration and transported wastes that may increase the toxicity of the discharge. 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.

### *Analytical Chemistry & Priority Pollutant Testing Evaluation*

06-096 CMR 530(4)(C) states:

> The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations.

The Department has limited information on the background levels of metals in the water column in Rockland Harbor in the vicinity of the permittee's outfall. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

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.

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

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

06-096 CMR 530(3)(E) states, "Where it is determined through [the statistical approach referred to in USEPA's Technical Support Document for Water Quality-Based Toxics Control] that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action."

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

06-096 CMR 530(4)(F) states, in part:

> Where there is more than one discharge into the same fresh or estuarine receiving water or watershed, the Department shall consider the cumulative effects of those discharges when determining the need for and establishment of the level of effluent limits. The Department shall calculate the total allowable discharge quantity for specific pollutants, less the water quality reserve and background concentration, necessary to achieve or maintain water quality criteria at all points of discharge, and in the entire watershed. The total allowable discharge quantity for pollutants must be allocated consistent with the following principles.
>
> Evaluations must be done for individual pollutants of concern in each watershed or segment to assure that water quality criteria are met at all points in the watershed and, if appropriate, within tributaries of a larger river.
>
> The total assimilative capacity, less the water quality reserve and background concentration, may be allocated among the discharges according to the past discharge quantities for each as a percentage of the total quantity of discharges, or another comparable method appropriate for a specific situation and pollutant. Past discharges of pollutants must be determined using the average concentration discharged during the past five years and the facility's licensed flow.
>
> The amount of allowable discharge quantity may be no more than the past discharge quantity calculated using the statistical approach referred to in section 3(E) [Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control"] of the rule, but in no event may allocations cause the water quality reserve amount to fall below the minimum referred to in 4(E) [15% of the total assimilative capacity]. Any difference between the total allowable discharge

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

quantity and that allocated to existing dischargers must be added to the reserve.

**On January 11, 2013, the Department conducted a statistical evaluation of the most recent 60 months of chemical-specific test results on file with the Department. The evaluation indicates that the discharge potentially exceeds the human health-based (water and organism) ambient water quality criterion (AWQC) threshold for inorganic arsenic. The discharge does not exceed or demonstrate a reasonable potential to exceed the critical AWQC for any other parameters tested.**

The Department has prepared guidance that establishes protocols for establishing waste load allocations. See **Attachment D** of this Fact Sheet. The guidance states that the most protective of water quality becomes the facility's allocation.

**Individual allocation methodology**

j. Arsenic (Inorganic): The most recent permitting action in which arsenic limits were modified (the November 21, 2009 permit modification) established a critical total arsenic concentration threshold of 26.4 µg/L based on an assumed ratio of 50% inorganic arsenic and 50% organic arsenic in total arsenic results. The November 21, 2009 permit modification established water quality-based, monthly average concentration (13.2 µg/L) and mass (0.24 lbs./day) limits for inorganic arsenic as follows.

*November 21, 2009 limits and thresholds*

End-of-pipe (EOP), water quality-based, monthly average concentration and mass limits for inorganic arsenic may be calculated using the formula used in permitting actions since October 2005 taking into consideration background (10% of AWQC) and a reserve (15% of AWQC). The formula is as follows:

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

Mass limit = (EOP concentration in mg/L[3])(8.34 lbs/gal)(permit flow limit in MGD)

Monthly Average Conc. = (419.1)[(0.75)(0.028 µg/L)] + (0.25)(0.028 µg/L)
= 8.8 µg/L + 0.007 µg/L
= 8.8 µg/L
= 8.8 µg/L X 1.5 = 13.2 µg/L

06-096 CMR 530(3)(D)(1) states, "for specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded." As not to penalize the permittee for operating at flows less than the permitted flow, the

[3] Note: 1 mg/L = 1,000 µg/L

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

November 21, 2009 permitting action established concentration limits for inorganic arsenic based on a factor of 1.5.

$$\text{Monthly Average Mass} = \frac{(0.0088 \text{ mg/L})(8.34 \text{ lbs./gallon})(3.3 \text{ MGD})}{1000 \text{ µg/mg}} = 0.24 \text{ lbs./day}$$

Being that the only approved test methods for compliance with arsenic limits established in permits is for total arsenic, the Department converted the water quality-based end-of-pipe monthly average concentration value of 13.2 µg/L for inorganic arsenic into an equivalent total arsenic threshold (assuming 50% of the total arsenic is inorganic arsenic). This results in a total arsenic end-of-pipe monthly average concentration threshold of 26.4 µg/L. The calculation is as follows:

$$\frac{13.2 \text{ µg/L inorganic arsenic}}{0.5 \text{ µg/L inorganic arsenic/ } 1.0 \text{ µg/L total arsenic}} = 26.4 \text{ µg/L total arsenic}$$

*August 9, 2010 limits and thresholds*

The August 9, 2010 minor permit revision established a critical total arsenic concentration threshold of 35.4 µg/L based on a ratio of 0.373:1 of inorganic arsenic to total arsenic as follows. The City submitted a report entitled, Inorganic Arsenic To Total Arsenic Ratio, Rockland Wastewater Treatment Facility, Rockland, Maine, May 3, 2010, in which they presented "a reasonable statistically supportable, estimate of the ratio of inorganic to total arsenic" of 0.373:1.

Given the statistical analysis performed by the permittee, a new critical total arsenic value of 35.4 µg/L was derived as follows.

$$\frac{13.2 \text{ µg/L inorganic arsenic}}{0.373 \text{ µg/L inorganic arsenic/ } 1.0 \text{ µg/L total arsenic}} = 35.4 \text{ µg/L total arsenic}$$

This permitting action is carrying forward the monthly average concentration and mass limits for inorganic arsenic of 13.2 µg/L and 0.24 lbs./day, respectively.

06-096 CMR 530(C)(6) states:

> All chemical testing must be carried out by approved methods that permit detection of a pollutant at existing levels in the discharge or that achieve detection levels as specified by the Department. When chemical testing results are reported as less then, or detected below the Department's specified detection limits, those results will be considered as not being present for the purposes of determining exceedences of water quality criteria.

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

The USEPA has not approved a test method for inorganic arsenic as of the date of issuance of this permit. As such, there is no way for the permittee to formally demonstrate compliance with the monthly average water quality-based mass and concentration limits for inorganic arsenic established in this permitting action. Therefore, beginning upon issuance of this permit and lasting through the date in which the USEPA approves a test method for inorganic arsenic the permittee is being required to monitor for total arsenic. Once a test method has been approved, the Department will notify the permittee in writing and the limitations and monitoring requirements for inorganic arsenic become effective thereafter.

If a test result is determined to be a potential exceedence, the permittee shall submit a toxicity reduction evaluation (TRE) to the Department for review and approval within 45 days of receiving the test result of concern from the laboratory. Contact the Department's compliance inspector for a copy of the Department's December 2007 guidance on conducting a TRE for arsenic.

*Conditions of licenses*, 38 M.R.S.A. § 414-A(2), Schedules of Compliance, states,

> Within the terms and conditions of a license, the department may establish a schedule of compliance for a final effluent limitation based on a water quality standard adopted after July 1, 1977. When a final effluent limitation is based on new or more stringent technology-based treatment requirements, the department may establish a schedule of compliance consistent with the time limitations permitted for compliance under the Federal Water Pollution Control Act, Public Law 92-500, as amended. A schedule of compliance may include interim and final dates for attainment of specific standards necessary to carry out the purposes of this subchapter and must be as short as possible, based on consideration of the technological, economic and environmental impact of the steps necessary to attain those standards.

Special Condition I, *Schedule of Compliance – Inorganic Arsenic*, of this permit establishes a schedule as follows:

> Beginning upon issuance of this permit modification and lasting through a date on which the USEPA approves a test method for inorganic arsenic, the limitations and monitoring requirements for inorganic are not in effect. During this time frame, the permittee is required by Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit to conduct 1/Quarter sampling and analysis for total arsenic.
>
> Upon receiving written notification by the Department that a test method for inorganic arsenic has been approved by the USEPA, the limitations and monitoring requirements for inorganic arsenic become effective and enforceable and the permittee is relieved of their obligation to sample and analyze for total arsenic.

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

The schedule of compliance reserves the final date for compliance with the limit for inorganic arsenic. This reservation stems from the fact the USEPA has no schedule for approving a test method for inorganic arsenic nor does the Department have any authority to require the USEPA to do so. Therefore, the Department considers the aforementioned schedule for inorganic arsenic to be as short as possible given the technological (or lack thereof) issue of not being able to sample and analyze for inorganic arsenic with an approved method.

*Waste Discharge License Conditions*, 06-096 CMR 523(7)(a)(3), states in part:

> …if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.
>
> (i) The time between interim dates shall not exceed 1 year, except that in the case of a schedule for compliance with standards for sewage sludge use and disposal, the time between interim dates shall not exceed six months.
>
> (ii) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit requires that beginning upon issuance of this permit and lasting through USEPA approval of a test method for inorganic arsenic, the permittee shall conduct 1/Quarter monitoring for total arsenic. Should the test method approval for inorganic arsenic extend more than one year from the date of the issuance of this permit the sampling and analysis for total arsenic will serve to satisfy the interim requirements specified by 06-096 CMR 523(7)(a)(3).

k. *Primary Treated Wastewater*

The permittee previously maintained a combined sewer system from which wet weather overflows occurred. To address and control these events, the permittee completed a Master Plan (Long Term Control Plan) for its sewer systems and has considered various control options. The plan addressed all of the relevant considerations contained in the USEPA's CSO Policy, section II.C. See Federal Register, April 19, 1994. One element of the permittee's Master Plan was to maximize existing infrastructure to covey as much excess wet weather flow to the treatment facility as practicable. However, due to the nature and volume of wet weather flows, it is not possible to provide secondary treatment for all flows that can be conveyed to the treatment plant site. Attempting to do so would cause upsets and damage to the secondary treatment process. Expansion of the secondary

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

system would not be practicable since the facilities would be too large to effectively treat normal dry weather flows.

Given these circumstances, and consistent with the USEPA's April 19, 1994 CSO Policy, Section II.C.7, the Department has determined that primary treatment and disinfection (when required) is an appropriate means of best practicable treatment (BPT) for some excess CSO flows and this treatment can be accomplished at the existing treatment facility site. For those flows received at the treatment facility which are greater than that which can be treated to a secondary level of treatment, the Department has made a best professional judgment (BPJ) that primary treatment and disinfection constitute appropriate and best practicable treatment. This permitting action carries forward numeric daily maximum limitations of 200 colonies/100 mL for fecal coliform bacteria and 1.0 mg/L for TRC based on Department BPJ of BPT for primary treated wastewater.

Bacterial contamination is the most direct water quality risk from wet weather discharge events and this permit contains limits for fecal coliform bacteria on a seasonal (May 15 – September 30) basis to protect the health, safety and welfare of the public. Since the primary effluent is somewhat more difficult to disinfect due to a higher organic content and flow variations, the use a daily maximum of 50 colonies/100 mL for fecal coliform bacteria as in the secondary effluent would be inappropriate. The Department has made a best professional judgment determination that the limitation of 200 colonies/100 mL constitutes best practicable treatment for primary treated wastewater that, with the available dilution, is protective of receiving water quality. The total residual chlorine limit of 1.0 mg/L was established using the same considerations as for the secondary effluent.

For Outfall # 001C and #002A, this permitting action is carrying forward primary treatment monitoring and reporting requirements for Discharge Flow, Surface Loading Rate, Overflow Occurrence, $BOD_5$, TSS, Fecal Coliform Bacteria, and TRC based on a Department BPJ of data necessary to evaluate the performance of the primary treatment process. This permitting action is eliminating the reporting requirements for $BOD_5$ percent removal and TSS percent removal based on best professional judgment that these metrics have not been particularly useful in assessing primary treatment system performance.

## 7. PRETREATMENT

The permittee is required to administer a pretreatment program based on the authority granted under Federal regulations 40 CFR Part 122.44(j), 40 CFR Part 403, section 307 of the Federal Water Pollution Control Act (Clean Water Act), and *Pretreatment Program*, 06-096 CMR 528 (amended March 17, 2008). The permittee's pretreatment program received USEPA 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 that were consistent with that approval and federal pretreatment regulations in effect when the permit was issued. The State of Maine has been authorized by the USEPA to administer the federal pretreatment program as part of receiving authorization to administer the NPDES program.

## 7. PRETREATMENT (cont'd)

Upon issuance of this 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 USEPA on July 29, 2011); (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 non-compliance for industrial users; and (6) establish a definition of and track significant industrial users. These requirements are necessary to ensure continued compliance with the POTW's MEPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, this permit requires that **within 180 days prior to the expiration date of this permit,** 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 to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. **By October 15 of each calendar year,** the permittee must submit a pretreatment annual report detailing the activities of the program for the twelve-month period ending 60 days prior to the due date.

## 8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

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

## 9. PUBLIC COMMENTS

Public notice of this application was made in the *Herald Gazette* newspaper on or about September 21, 2012. 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 sent to:

Bill Hinkel
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 485-2281
e-mail: bill.hinkel@maine.gov

## 11. RESPONSE TO COMMENTS

During the period of January 14, 2013, through the issuance date of this permit, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit to be issued to the Town for the proposed discharge.

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

# ATTACHMENT A


Outfall #002A (primary)
and Emergency Bypass
Rockland PCF
Rockland, ME
Outfall #001A (secondary)
Outfall #001C (primary)
and Emergency Bypass
Image © 2012 Maine GeoLibrary
Image © 2012 GeoEye
Google earth
Imagery Date: 3/31/2004
1996
16 ft
Eye alt 4365 ft

# ATTACHMENT B

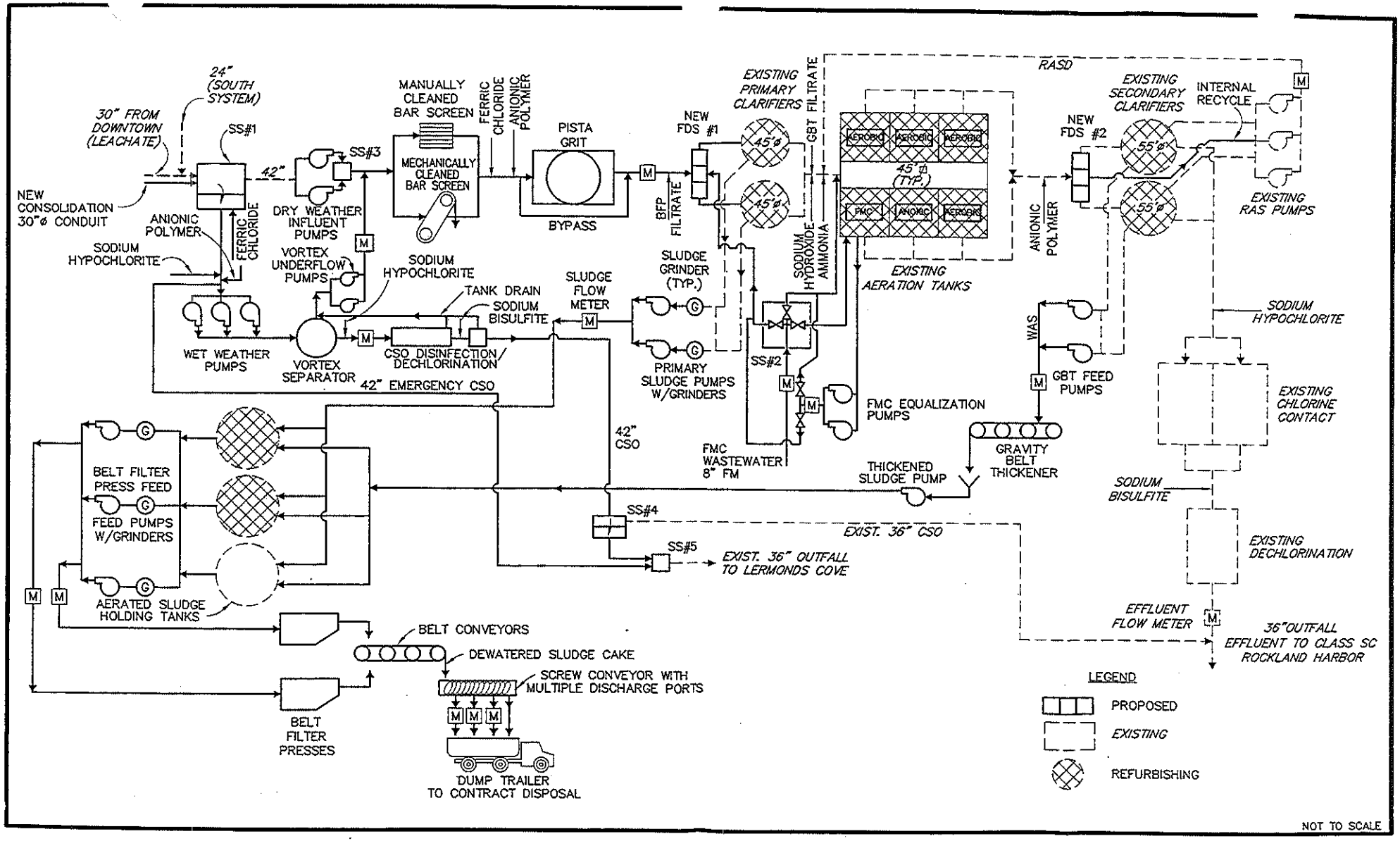


FIGURE 1-1
PROCESS FLOW SCHEMATIC

# ATTACHMENT C

# FACILITY WET EVALUATION REPORT

**Facility:** ROCKLAND **Permit Number:** ME0100595 **Report Date:** 1/11/2013

**Receiving Water:** ROCKLAND HARBOR **Rapidmix:** ?

**Dilution Factors:** 1/4 Acute: 18.20 Acute: 18.200 Chronic: 139.70

**Effluent Limits:** Acute (%): 21.978 Chronic (%): 0.716 **Date range for Evaluation: From** 11/Jan/2008 **To:** 11/Jan/2013

**Test Type:** A_NOEL

**Test Species:** MYSID SHRIMP

| Test Date | Result (%) | Status |
|---|---|---|
| 01/14/2008 | 100.000 | OK |
| 08/10/2009 | 100.000 | OK |
| 10/11/2011 | 100.000 | OK |
| 03/05/2012 | 100.000 | OK |

**Species Summary:**

**Test Number:** 4 **RP:** 2.600 **Min Result (%):** 100.000 **RP factor (%):** 38.462 **Status:** OK

**Test Type:** C_NOEL

**Test Species:** SEA URCHIN

| Test Date | Result (%) | Status |
|---|---|---|
| 08/10/2009 | 100.000 | OK |
| 03/05/2012 | 100.000 | OK |
| 05/21/2012 | 25.000 | OK |

**Species Summary:**

**Test Number:** 3 **RP:** 3.000 **Min Result (%):** 25.000 **RP factor (%):** 8.333 **Status:** OK

# ATTACHMENT D

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMORANDUM

DATE: October 2008

TO: Interested Parties

FROM: Dennis Merrill, DEP

SUBJECT: DEP's system for evaluating toxicity from multiple discharges

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Following the requirements of DEP's rules, Chapter 530, section 4(F), the Department is evaluating discharges of toxic pollutants into a freshwater river system in order to prevent cumulative impacts from multiple discharges. This is being through the use of a computer program known internally as "DeTox". The enclosed package of information is intended to introduce you to this system.

Briefly, the DeTox program evaluates each wastewater facility within a watershed in three different ways in order to characterize its effluent: 1) the facility's past history of discharges, 2) its potential toxicity at the point of discharge on an individual basis, and 3) the facility's contribution to cumulative toxicity within a river segment in conjunction with other facilities. The value that is most protective of water quality becomes the value that is held in the DeTox system as an allocation for the specific facility and pollutant.

The system is not static and uses a five-year "rolling" data window. This means that, over time, old test results drop off and newer ones are added. The intent of this process is to maintain current, uniform facility data to estimate contributions to a river's total allowable pollutant loading prior to each permit renewal.

Many facilities are required to do only a relatively small amount of pollutant testing on their effluent. This means, statistically, the fewer tests done, the greater the possibility of effluent limits being necessary based on the facility's small amount of data. To avoid this situation, most facilities, especially those with low dilution factors, should consider conducting more than the minimum number of tests required by the rules.

Attached you will find three documents with additional information on the DeTox system:

- Methods for evaluating the effects of multiple discharges of toxic pollutants
- Working definitions of terms used in the DeTox system
- Reviewing DeTox Reports
- Prototype facility and pollutant reports

If you have questions as you review these, please do not hesitate to contact me at Dennis.L.Merrill@maine.gov or 287-7788.

Maine Department of Environmental Protection

Methods for evaluating the effects of multiple discharges of toxic pollutants.

Reference: DEP Rules, Chapter 530, section 4(F)

To evaluate discharges of toxic pollutants into a freshwater river system and prevent cumulative impacts from multiple discharges, DEP uses a computer program called "DeTox that functions as a mathematical evaluation tool.

It uses physical information about discharge sources and river conditions on file with the Department, established water quality criteria and reported effluent test information to perform these evaluations. Each toxic pollutant and associated water quality criterion for acute, chronic and/or human health effects is evaluated separately.

Each facility in a river drainage area has an assigned position code. This "address" is used to locate the facility on the river segment and in relation to other facilities and tributary streams. All calculations are performed in pounds per day to allow analysis on a mass balance. Pollutants are considered to be conservative in that once in the receiving water they will not easily degrade and have the potential to accumulate.

The process begins with establishing an assimilative capacity for each pollutant and water quality criterion at the most downstream point in the river segment. This calculation includes set-aside amounts for background and reserve quantities and assumed values for receiving water pH, temperature and hardness. The resulting amount of assimilative capacity is available for allocation among facilities on the river.

Each facility is evaluated to characterize its past discharge quantities. The historical discharge, in pounds per day, is figured using the average reported concentration and the facility's permitted flow. As has been past practice, a reasonable potential (RP) factor is used as a tool to estimate the largest discharge that may occur with a certain degree of statistical certainty. The RP factor is multiplied by the historical average to determine an allocation based on past discharges. The RP factor is also multiplied by the single highest test to obtain a maximum day estimate. Finally, the direct average without RP adjustment is used to determine the facility's percent contribution to the river segment in comparison to the sum of all discharges of the pollutant. This percent multiplied by the total assimilative capacity becomes the facility's discharge allocation used in evaluations of the segment loadings.

Additionally, individual facility discharges are evaluated as single sources, as they have been in the past to determine if local conditions are more limiting than a segment evaluation.

With all of this information, facilities are evaluated in three ways. The methods are:

1. The facility's past history. This is the average quantity discharged during the past five years multiplied by the applicable RP factor. This method is often the basis for an allocation when the discharge quantity is relatively small in comparison to the water quality based allocation.
2. An individual evaluation. This assumes no other discharge sources are present and the allowable quantity is the total available assimilative capacity. This method may be used when a local condition such as river flow at the point of discharge is the limiting factor.
3. A segment wide evaluation. This involves allocating the available assimilative capacity within a river segment based on a facility's percent of total past discharges. This method would be used when multiple discharges of the same pollutant to the same segment and the available assimilative capacity is relatively limited.

The value that is most protective of water quality becomes the facility's allocation that is held in the system for the specific facility and pollutant. It is important to note that the method used for allocation is facility and pollutant specific and different facilities on the same segment for the same pollutant can have different methods used depending on their individual situations.

Discharge amounts are always allocated to all facilities having a history of discharging a particular pollutant. This does not mean that effluent limits will be established in a permit. Limits are only needed when past discharge amounts suggest a reasonable potential to exceed a water quality based allocation, either on an individual or segment basis. Similar to past practices for single discharge evaluations, the single highest test value is multiplied by a RP factor and if product is greater than the water quality allowance, an effluent limit is established. It is important to remember an allocation is "banking" some assimilative capacity for a facility even if effluent limits are not needed.

Evaluations are also done for each tributary segment with the sum of discharge quantities in tributaries becoming a "point source" to the next most significant segment. In cases where a facility does not use all of its assimilative capacity, usually due to a more limiting individual water quality criterion, the unused quantity is rolled downstream and made available to other facilities.

The system is not static and uses a five-year rolling data window. Over time, old tests drop off and newer ones are added on. These changes cause the allocations and the need for effluent limits to shift over time to remain current with present conditions. The intent is to update a facility's data and relative contribution to a river's total assimilative capacity prior to each permit renewal. Many facilities are required to do only minimal testing to characterize their effluents. This creates a greater degree of statistical uncertainty about the true long-term quantities. Accordingly, with fewer tests the RP factor will be larger and result in a greater possibility of effluent limits being necessary. To avoid this situation, most facilities, especially those with relatively low dilution factors, are encouraged to conduct more that a minimum number of tests. It is generally to a facility's long-term benefit to have more tests on file since their RP factor will be reduced.

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Working Definitions of Terms Used in the DeTox System.

*Allocation.* The amount of pollutant loading set aside for a facility. Separate amounts are set for each *water quality criterion.* Each pollutant having a history of being discharged will receive an allocation, but not all allocations become *effluent limits.* Allocation may be made in three ways: *historical allocation, individual allocation* or *segment allocation.*

*Assimilative capacity.* The amount of a pollutant that river segment can safely accept from point source discharges. It is determined for the most downstream point in a river segment using the *water quality criterion* and river flow. Separate capacities are set for acute, chronic and human health criteria as applicable for each pollutant. Calculation of this capacity includes factors for *reserve* and *background* amounts.

*Background.* A concentration of a pollutant that is assumed to be present in a receiving water but not attributable to discharges. By rule, this is set as a rebuttable presumption at 10% of the applicable *water quality criterion.*

*Effluent limit.* A numeric limit in a discharge permit specifically restricting the amount of a pollutant that may be discharged. An effluent limit is set only when the highest discharge, including an adjustment for *reasonable potential*, is greater than a facility's water quality based *allocation* for a pollutant.

*Historical allocation* (or *RP history*). One of three ways of developing an *allocation.* The facility's average history of discharges, in pounds at design flow, is multiplied by the appropriate *reasonable potential* factor. An allocation using this method does not become an *effluent limit.*

*Historical discharge percentage.* For each pollutant, the average discharge concentration for each facility in a segment is multiplied by the permitted flow (without including a *reasonable potential* factor). The amounts for all facilities are added together and a percent of the total is figured for each facility. When a facility has no detectable concentrations, that pollutant is assumed to be not present and it receives no percentage.

*Individual allocation.* One of three ways of developing an *allocation.* The facility's single highest discharge on record multiplied by the appropriate *reasonable potential* factor is compared to a water quality based quantity with an assumption that the facility is the only point source to that receiving water. If the RP-adjusted amount is larger, the water quality amount may become an *effluent limit.*

*Less than.* A qualification on a laboratory report indicating the concentration of a pollutant was below a certain concentration. Such a result is evaluated as being one half of the Department's reporting limit in most calculations.

*Reasonable potential (RP).* A statistical method to determine the highest amount of a pollutant likely to be present at any time based on the available test results. The method produces a value or RP factor that is multiplied by test results. The method relies on an EPA guidance document, and considers the coefficient of variation and the number of tests. Generally, the fewer number of tests, the higher the RP factor.

*Reserve.* An assumed concentration of a pollutant that set aside to account for non-point source of a pollutant and to allow new discharges of a pollutant. By rule this is set at 15% of the applicable *water quality criterion.*

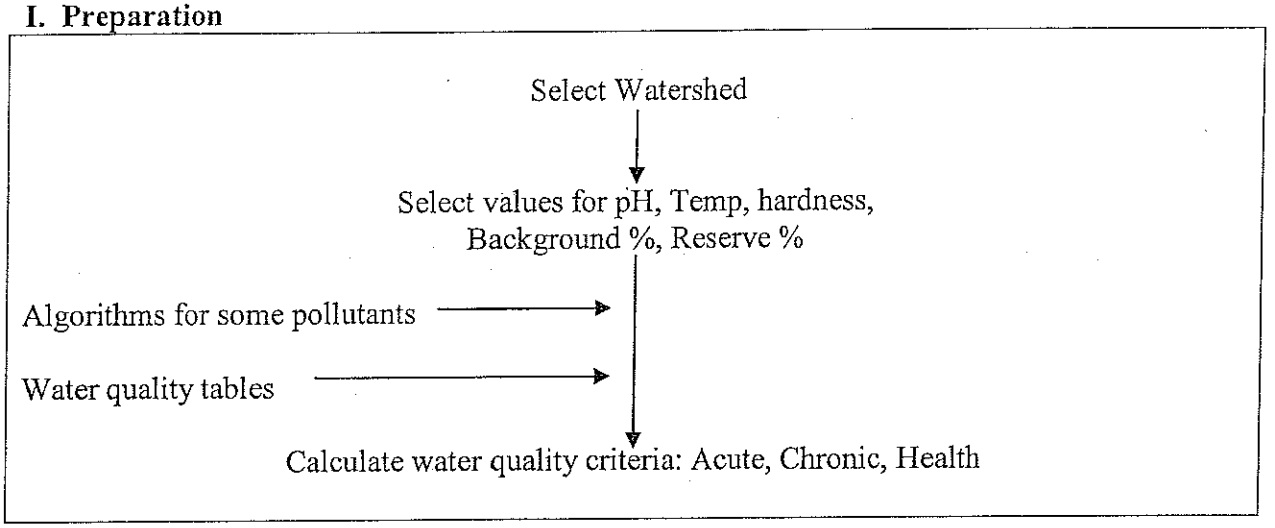
*Segment allocation.* One of three ways of developing an *allocation.* The amount is set by multiplying a facility's *historical discharge percentage* for a specific pollutant by the *assimilative capacity* for that pollutant and criterion. A facility will have different allocation percentages for each pollutant. This amount may become an *effluent limit.*

*Tributary.* A stream flowing into a larger one. A total pollutant load is set by adding the all facilities *allocations* on the tributary and treating this totaled amount as a "point source" to the next larger segment.

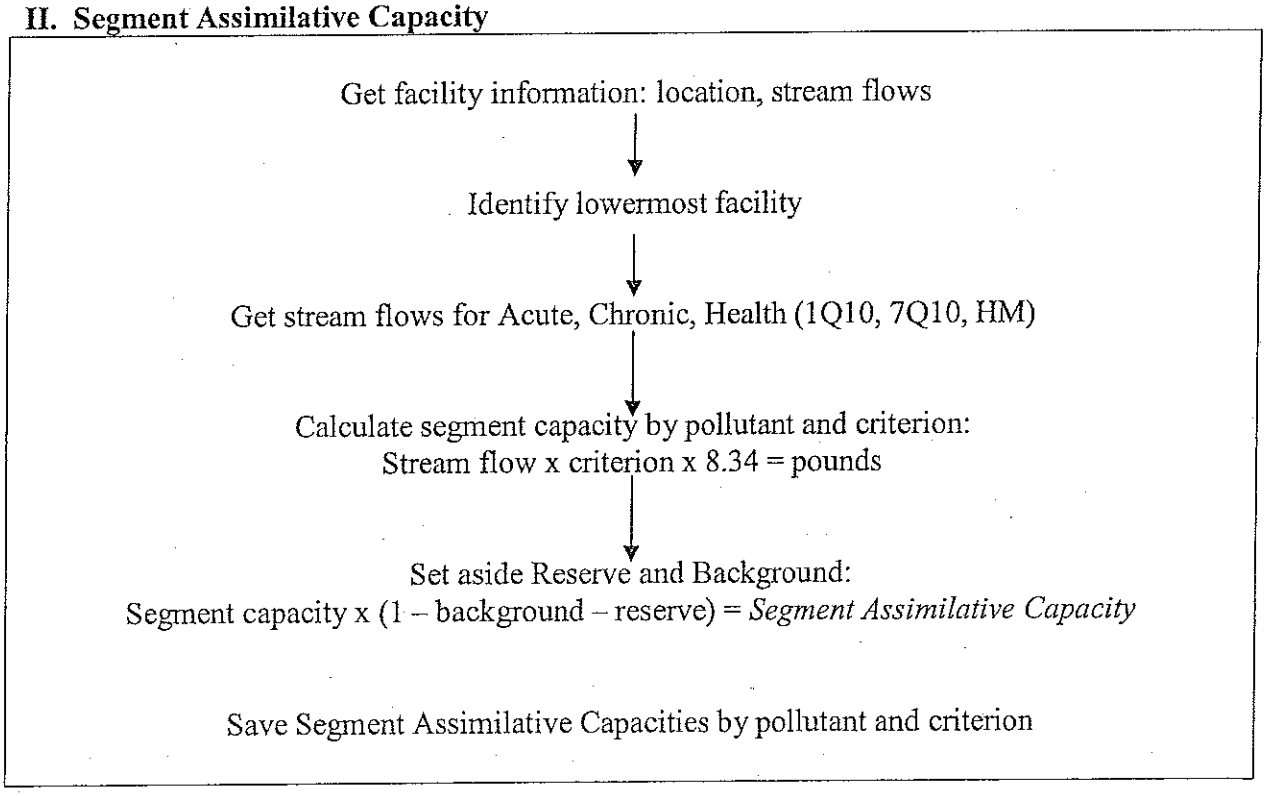
*Water quality criteria.* Standards for acceptable in-stream or ambient levels of pollutants. These are established in the Department's Chapter 584 and are expressed as concentrations in ug/L. There may be separate standards for acute and chronic protection aquatic life and/or human health. Each criterion becomes a separate standard. Different stream flows are used in the calculation of each.

Maine Department of Environmental Protection
General Processing Steps in "DeTox"

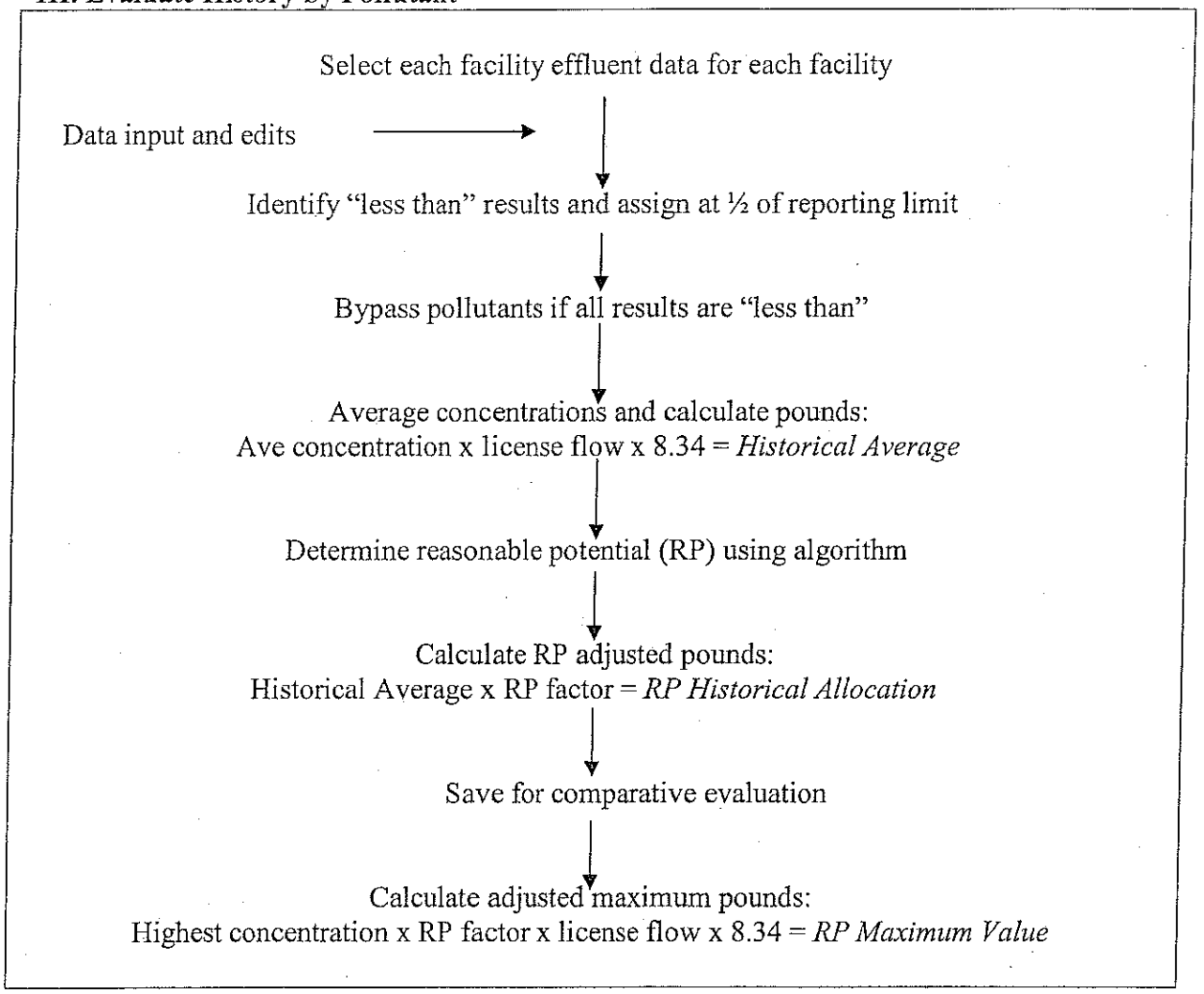
**I. Preparation**



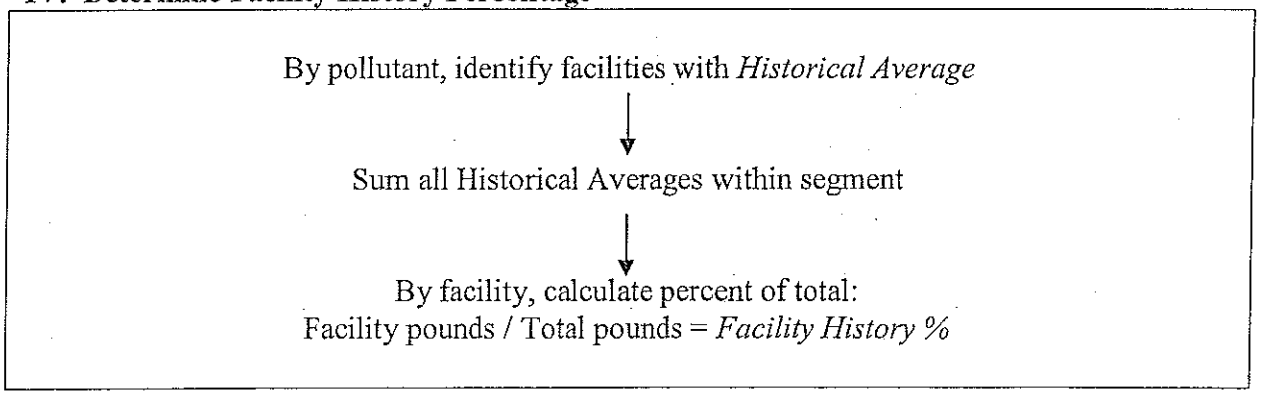

**II. Segment Assimilative Capacity**



**III. Evaluate History by Pollutant**




**IV. Determine Facility History Percentage**



**V. Segment Allocation**

By pollutant and criterion, select *Segment Assimilative Capacity*

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Select individual *Facility History %*

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Determine facility allocation:
Assimilative Capacity x Facility History % = *Segment Allocation*

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Save for comparative evaluation

**VI. Individual Allocation**

Select individual facility and dilution factor (DF)

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Select pollutant and water quality criterion

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By pollutant and criterion, calculate individual allocations:
[DF x 0.75 x criterion] + [0.25 x criterion] = Individual Concentration

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Determine individual allocation:
Individual Concentration x license flow x 8.34 = *Individual Allocation*

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Save for comparative evaluation

**VII. Make Initial Allocation**

By facility, pollutant and criterion, get:
*Individual Allocation, Segment Allocation, RP Historical Allocation*

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Compare allocation and select the smallest

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Save as *Facility Allocation*

**VIII. Evaluate Need for Effluent Limits**

By facility, pollutant and criterion select
*Segment Allocation*, *Individual Allocation* and *RP Maximum value*

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If *RP Maximum value* is greater than either *Segment Allocation* or *Individual Allocation*, use lesser value as *Effluent Limit*

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Save *Effluent Limit* for comparison

**IX. Reallocation of Assimilative Capacity**

Starting at top of segment, get *Segment Allocation*, *Facility Allocation* and *Effluent Limit*

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If *Segment Allocation* equals *Effluent Limit*, move to next facility downstream

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If not, subtract *Facility Allocation* from *Segment Allocation*

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Save difference

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Select next facility downstream

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Figure remaining *Segment Assimilative Capacity* at and below facility, less tributaries

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Add saved difference to get an adjusted *Segment Assimilative Capacity*

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Reallocate *Segment Assimilative Capacity* among downstream facilities per step V

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Repeat process for each facility downstream in turn