ME0100471

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

Mr. Gary Stetson
City of Old Town Water Pollution Control Facility
150 Brunswick Street
Old Town, ME. 04468-1497

May 24, 2004

RE: Maine Waste Discharge License (WDL) Application #W001635-5L-C-R
Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100471
Final Permit/License

Dear Gary:

Enclosed please find a copy of your **final** MEPDES permit/WDL which was approved by the Department of Environmental Protection. You must follow the conditions in the permit to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

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

We would like to make you aware of the fact that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. However, you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR. Please see the attached April 2003 O&M Newsletter article regarding this matter.

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality

Enc.
cc: Clarissa Trasko, DEP/EMRO
Ted Lavery, EPA

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AUGUSTA, MAINE 04333-0017
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DMR Lag

When the Department renews discharge permits, the parameter limits may change or parameters may be added or deleted. In some cases, it is merely the replacement of the federally issued NPDES permit with a state-issued MEPDES permit that results in different limits. When the new permit is finalized, a copy of the permit is passed to our data entry staff for coding into EPA's Permits Compliance System (PCS) database. PCS was developed in the 1970's and is not user-friendly. Entering or changing parameters can take weeks or even months.

This can create a lag between the time your new permit becomes effective and the new permit limits appearing on your DMRs. If you are faced with this, it can create three different situations that have to be dealt with in different ways.

1. If the parameter was included on previous DMRs, but only the limit was changed, there will be a space for the data. Please go ahead and enter it. When the changes are made to PCS, the program will have the data and compare it to the new limit.

2. When a parameter is eliminated from monitoring in your new permit, but there is a delay in changing the DMR, you will have a space on the DMR that needs to be filled. For a parameter that has been eliminated, please enter the space on the DMR for that parameter only with "NODI-9" (No Discharge Indicator Code #9). This code means monitoring is conditional or not required this monitoring period.

3. When your new permit includes parameters for which monitoring was not previously required, and coding has not caught up on the DMRs, there will not be any space on the DMR identified for those parameters. In that case, please fill out an extra sheet of paper with the facility name and permit number, along with all of the information normally required for each parameter (parameter code, data, frequency of analysis, sample type, and number of exceedances). Each data point should be identified as monthly average, weekly average, daily max, etc. and the units of measurement such as mg/L or lb/day. Staple the extra sheet to the DMR so that the extra data stays with the DMR form. Our data entry staff cannot enter the data for the new parameters until the PCS coding catches up. When the PCS coding does catch up, our data entry staff will have the data right at hand to do the entry without having to take the extra time to seek it from your inspector or from you.

EPA is planning significant improvements for the PCS system that will be implemented in the next few years. These improvements should allow us to issue modified permits and DMRs concurrently. Until then we appreciate your assistance and patience in this effort.

Phil Garwood

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

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF OLD TOWN	)	MAINE POLLUTANT DISCHARGE
PUBLICLY OWNED TREATMENT WORKS	)	ELIMINATION SYSTEM PERMIT
OLD TOWN, PENOBSCOT COUNTY, MAINE	)	AND
ME0100471	)	WASTE DISCHARGE LICENSE
W001635-5L-C-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq. and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the CITY OF OLD TOWN (City hereinafter), with its supportive data, agency review comments, and other related material on file and finds the following facts:

APPLICATION SUMMARY

The applicant has applied to the Department for renewal of Department Waste Discharge License (WDL) #W001635-5L-B-R which was issued on November 4, 1999 and is due to expire on November 4, 2004. The 11/4/99 WDL authorized the discharge of up to a monthly average flow of 1.70 million gallons per day (MGD) of secondary treated sanitary waste waters from a municipal waste water treatment facility to the Penobscot River, Class B, in Old Town, Maine. The 11/4/99 WDL also authorized the discharge of an unspecified quantity of untreated combined sanitary and storm water from three (3) combined sewer overflow (CSO) outfalls. Two CSO's discharge to the Penobscot River, Class B and one CSO discharges to the Stillwater River, Class C. It is noted the waste water treatment facility is currently being upgraded (scheduled for completion in 2004) to mitigate CSO events. The upgrade will provide the facility with the ability to provide primary treatment and disinfection for flows conveyed to the treatment facility that exceed the capacity of the secondary treatment process.

On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program and permit #ME0100471 (same as NPDES permit number) will utilized as the primary reference number.

PERMIT SUMMARY

This permitting action is similar to the 11/4/99 WDL action in that it is;

Secondary Treated Waste Waters:

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

PERMIT SUMMARY (cont'd)

2. Carrying forward the monthly average and weekly average technology based mass limitations for BOD_5 and TSS based on the previous monthly average flow limitation of 1.70 MGD due to potential non-attainment of dissolved oxygen standards in the Penobscot River below the permittee's waste water treatment facility. These limits are applicable between June 1 – September 30 of each year.

3. Carrying forward the reporting requirement for the daily maximum mass loadings for BOD_5 and TSS.

4. Carrying forward the daily maximum technology based concentration limit for settleable solids.

5. Carrying forward the seasonal (May 15 – September 30) monthly average and daily maximum water quality based concentration limits for *E. coli* bacteria.

6. Carrying forward the daily maximum technology based concentration limit for total residual chlorine.

7. Carrying forward the screening level whole effluent toxicity (WET) and chemical specific (priority pollutant) testing.

This permitting action is different than the 11/4/99 WDL action in that it is;

Secondary Treated Waste Waters:

8. Increasing the monthly average flow limitation from 1.70 MGD to 3.5 MGD.

9. Establishing a requirement for achieving a minimum of 85% removal for BOD5 and TSS.

10. Revising the daily maximum technology based pH range limit from 6.0 – 8.5 standard units to 6.0 – 9.0 standard units based on a new Department regulation.

11. Establishing a seasonal (June 1 – September 30) monitoring requirement for total phosphorus.

12. Requiring the permittee to periodically update the Operation and Maintenance (O&M) Plan and Wet Weather Management Plan for the waste water treatment facility and pump stations.

PERMIT SUMMARY (cont'd)

Primary Treated Waste Waters:

13. Establishing a daily maximum water quality based limit for *E. coli* bacteria and a daily maximum technology based limit for total residual chlorine.

14. Establishing monthly average and or daily maximum reporting requirements for flow, surface overflow rates, number of discharge days per month and percent removal for BOD5 and TSS.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated March 22, 2004, and subject to the Conditions listed below, the Department makes the following CONCLUSION:

Secondary and Primary Treated Waste Waters:

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

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

3. The provisions of the State's antidegradation policy, 38 MRSA Section 464(4)(F), will be met, in that:

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

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

    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 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 (including the three CSO's) will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the application of the CITY OF OLD TOWN, to discharge up to a monthly average flow of 3.50 million gallons per day (MGD) of secondary treated sanitary waste waters and an unspecified quantity of excess combined sanitary and storm water receiving primary treatment only from a municipal waste water treatment facility and untreated combined sanitary and storm water from three (3) combined sewer overflow (CSO) outfalls to the Penobscot and Stillwater Rivers, in Old Town, Maine. The discharges shall be 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 expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 25TH DAY OF May, 2004.

COMMISSIONER OF ENVIRONMENTAL PROTECTION

BY: _____ for
Dawn Gallagher, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application January 20, 2004.

Date of application acceptance January 22, 2004.

FILED
MAY 26 2004
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This Order prepared by GREGG WOOD, BUREAU OF LAND & WATER QUALITY

W16355LC 4/15/04

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to discharge secondary treated waste waters to the Penobscot River. Such treated waste water discharges shall be limited and monitored by the permittee as specified below.

SECONDARY TREATED WASTE WATERS - OUTFALL #001A

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow [50050]	3.50 MGD[03]	---	Report (MGD)	---	---	---	Continuous [99/99]	Recorder [RC]
Biochemical Oxygen Demand (BOD_5) [00310] *(June 1 – September 30)* *(October 1 – May 31)*	425 lbs/Day 875 lbs/Day [26]	638 lbs/Day 1,314 lbs/Day [26]	Report lbs/Day Report lbs/Day [26]	30 mg/L 30 mg/L [19]	45 mg/L 45 mg/L [19]	50 mg/L 50 mg/L [19]	3/Week 3/Week [03/07]	Composite Composite [24]
BOD_5 % Removal[(1)] [81010]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
Total Suspended Solids (TSS) [00530] *(June 1 – September 30)* *(October 1 – May 31)*	425 lbs/Day 875 lbs/Day [26]	638 lbs/Day 1,314 lbs/Day [26]	Report lbs/Day Report lbs/Day [26]	30 mg/L 30 mg/L [19]	45 mg/L 45 mg/L [19]	50 mg/L 50 mg/L [19]	3/Week 3/Week [03/07]	Composite Composite [24]
TSS % Removal[(1)] [81011]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
Settleable Solids [00545]	---	---	---	---	---	0.3 ml/L [25]	5/Week [05/07]	Grab [GR]
E. coli Bacteria [(2)] [31633] *(May 15 – September 30)*	---	---	---	64/100 ml[(3)] [13]	---	427/100 ml [13]	1/Week [01/07]	Grab [GR]
pH (Std. Units) [00400]	---	---	---	---	---	6.0-9.0 [12]	5/Week [05/07	Grab [GR]

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

SECONDARY TREATED WASTE WATERS - OUTFALL #001A

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Total Residual Chlorine [50060]	---	---	---	---	---	1.0 mg/L [19]	1/Day(4) [01/01]	Grab [GR]
Total Phosphorus [00665] (June 1 – September 30)	Report lbs/Day [26]	Report lbs/Day [26]	Report lbs/Day [26]	Report mg/L [19]	Report mg/L [19]	Report mg/L [19]	1/Week [01/07]	Composite [24]
pH (Std. Units) [00400]	---	---	---	---	---	6.0-9.0 [12]	1/Day [01/01]	Grab [GR]
Whole Effluent Toxicity (WET) (5)								
A-NOEL								
Ceriodaphnia dubia [TDA3B]	---	---	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Salvelinus fontinalis [TDA6F]	---	---	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
C-NOEL								
Ceriodaphnia dubia [TBP3B]	---	---	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Salvelinus fontinalis [TBQ6F]	---	---	---	---	---	Report % [23]	1/Year [01/YR]	Composite [24]
Chemical Specific(6) [50008]	---	---	---	---	---	Report ug/L [28]	1/Quarter [01/90]	Composite/ Grab [24/GR]

SPECIAL CONDITIONS

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

During the period beginning the effective date of the permit and lasting through permit expiration, the permittee is authorized to bypass secondary treatment. Such discharges may only occur in response to wet weather events when the flow exiting the primary clarifiers exceeds a flow rate of 3,260 gallons per minute (4.7 MGD) for one hour, or in accordance with the most current approved Wet Weather Flow Management Plan and shall be monitored and reported as specified below.

PRIMARY TREATED WASTE WATERS - OUTFALL #002A

Effluent Characteristic	Discharge Limitations				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, MGD [50050]	Report (Total MGD) [03]	Report (MGD) [03]	---	---	Continuous[99/99]	Recorder[RC]
Surface Loading Rate(7) [50997]	---	Report (gpd/sf) [07]	---	---	1/Discharge Day(8) [01/DS]	Calculate[CA]
Overflow Use, Occurrences(9) [74062]	---	---	Report (# of days) [93]	---	1/Discharge Day(8) [01/DS]	Record Total[RT]
BOD5 [00310]	---	---	---	Report mg/L [19]	1/Discharge Day(8) [01/DS]	Composite[24]
BOD5 % Removal(10) [81010]	---	---	Report (%)[23]	---	1/Discharge Day(8) [01/DS]	Calculate[CA]
TSS [00530]	---	---	---	Report mg/L [19]	1/Discharge Day(8) [01/DS]	Composite[24]
TSS % Removal(10) [81011]	---	---	Report (%)[23]	---	1/Discharge Day(8) [01/DS]	Calculate[CA]
E. coli Bacteria (2) [31633] *(May 15 – September 30)*	---	---	---	427/100 ml [13]	1/Discharge Day(8) [01/DS]	Grab [GR]
Total Residual Chlorine [50060]	---	---	--	1.0 mg/L [19]	1/Discharge Day(4,8) [01/DS]	Grab [GR]

SPECIAL CONDITIONS

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

Footnotes:

Sampling Locations:

Influent sampling for flow, BOD_5 and TSS for both primary and secondary treated waste waters shall be sampled after screening and grit removal.

Effluent receiving secondary treatment (Outfall #001A) shall be sampled for all parameters after the chlorine contact chamber on a year-round basis.

Effluent receiving primary treatment (Outfall #002A) shall be sampled for flow, BOD_5, TSS, *E. coli* bacteria and total residual chlorine after the storm flow chlorinination/dechlorination contact chamber and prior to combining with the secondary treated effluent being discharged via Outfall #001A.

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

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

1. **Percent removal** - The treatment facility shall maintain a minimum of 85 percent removal of both BOD_5 and TSS for waste waters receiving a secondary level of treatment. The percent removal shall be based on a monthly average calculation using influent and effluent concentrations. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L. For instances when this occurs, the facility shall report "*NODI-9*" on the monthly Discharge Monitoring Report. Influent and effluent values collected during bypass conditions shall not be used in calculating the BOD_5 and TSS percent removal rates.

2. ***E. coli* bacteria** - Limits are seasonal and apply between May 15 and September 30 of each calendar year. The Department reserves the right to require disinfection on a year-round basis to protect the health and welfare of the public.

3. ***E. coli* bacteria** – The monthly average limitation is a geometric mean limitation and shall be calculated and reported as such.

SPECIAL CONDITIONS

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

Footnotes:

4. **Total Residual Chlorine (TRC)** – Sampling for TRC is only required when the effluent is being disinfected with elemental chlorine or chlorine based compounds.

5. **Whole effluent toxicity (WET) testing** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic dilution of 0.21% and 0.19% respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

   Beginning twelve months prior to the expiration date of the permit, the permittee shall initiate screening level WET tests at a frequency of once per year (any calendar quarter). Testing shall be conducted on the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). Results shall be submitted to the Department within thirty (30) days of the permittee receiving the data report from the laboratory conducting the testing. Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

   a. Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms, 4th Edition, October 2002, EPA-821-R-02-013.

   b. Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, 3rd Edition, October 2002, EPA-821-R-02-012.

   The permittee is also required to analyze the effluent for the parameters specified in the analytic chemistry report form in Attachment A of this permit each time a WET test is performed.

6. **Priority pollutant** - (chemical specific testing pursuant to Department rule Chapter 530.5) testing are those parameters listed by the USEPA pursuant to Section 307(a) of the Clean Water Act and published in 40 CFR Part 122, Appendix D, Tables II and III and Department rule Chapter 521.

SPECIAL CONDITIONS

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

Footnotes:

Beginning twelve months prior to the expiration date of the permit, screening level chemical specific testing shall be conducted at a frequency of four per year (four consecutive calendar quarters). Chemical specific testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, where applicable. Chemical specific testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. Results shall be submitted to the Department within thirty (30) days of the permittee receiving the data report from the laboratory conducting the testing. **For the purposes of DMR reporting, enter a "NODI-9" for *no testing done this monitoring period* or "1" for *yes, testing done this monitoring period.***

All mercury sampling shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

7. **Surface Overflow Rate (SOR)** – For the purposes of this permitting action SOR is defined as the average hourly rate per overflow occurrence in a discharge day. The permittee should provide this information to establish data on the effectiveness of peak flows receiving primary treatment only.

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

9. **Overflow occurrence** – An overflow occurrence is defined as the period of time between initiation and cessation of flow from the storm flow chlorine contact tank. Overflow occurrences are reported in discharge days.

   Multiple intermittent overflow occurrences in one discharge day are reported as one overflow occurrence and are sampled according to the measurement frequency specified. One composite sample for BOD5 and TSS shall be collected per discharge day if a continuous overflow occurrence is greater than 60 minutes in duration or intermittent occurrences totaling 120 minutes during a 24-hour period. Composite

SPECIAL CONDITIONS

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

Footnotes:

samples shall be flow proportioned from all intermittent overflows during that 24-hour period. Only one grab sample for *E. coli* bacteria and total residual chlorine is required to be collected per discharge day if a continuous overflow occurrence is greater than 60 minutes in duration or intermittent occurrences totaling 120 minutes during a 24-hour period and are only required if the event(s) occur between 7:00 AM and 4:00 PM (Monday – Friday).

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 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 shall be flow proportioned.

10. **BOD_5 and TSS Removal** - The permittee shall analyze the influent to the primary clarifiers and the effluent from the storm flow chlorine contact tank for BOD and TSS during the discharge of treated excess combined sewer waste waters from Outfall 002A and report the percent (%) removal on the monthly Discharge Monitoring Report (DMR). As an attachment to the DMR, the permittee shall report the individual BOD and TSS test results used to calculate the percent removal rates reported.

B. NARRATIVE EFFLUENT LIMITATIONS

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

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

3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.

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

SPECIAL CONDITIONS

C. DISINFECTION

If chlorination is used as a means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized, followed by a dechlorination system if the Total Residual Chlorine (TRC) cannot be met by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall be sufficient to leave a TRC concentration that will effectively reduce bacteria to levels below those specified in Special Condition A, *"Effluent Limitations and Monitoring Requirements"*, above.

D. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a **Grade IV** (at a minimum), certificate pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

E. LIMITATIONS FOR INDUSTRIAL USERS

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

F. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall 001A, 002A and three (3) combined sewer overflow outfalls listed in Special Condition L, *Combined Sewer Overflows*, of this permit. Discharges of waste water from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B(5) (Bypass) of this permit.

SPECIAL CONDITIONS

G. MONITORING AND REPORTING

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

Department of Environmental Protection
Eastern Maine Regional Office
Bureau of Land and Water Quality
Division of Compliance, Engineering & Technical Assistance
106 Hogan Road
Bangor, Maine 04401

Additional monthly reporting requires submitting (in electronic version preferably) a *"DEP-49-CSO Form For Use With Dedicated CSO Primary Clarifiers or DEP-49-CSO Form For Use With Non-Dedicated CSO Primary Clarifiers"* to:

CSO Coordinator
Department of Environmental Protection
Bureau of Land & Water Quality
Division of Engineering, Compliance and Technical Assistance
17 State House Station
Augusta, Maine 04333
e-mail: CSOCoordinator@state.me.us

SPECIAL CONDITIONS

H. NOTIFICATION REQUIREMENT

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 into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:

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

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

I. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall develop and maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility, the permittee shall submit to the Department for review and approval, a new or revised Wet Weather Management Plan which conforms to Department guidelines for such plans. 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 annually and record any necessary changes to keep the plan up to date.

SPECIAL CONDITIONS

J. OPERATION & MAINTENANCE (O&M) PLAN

This facility shall have a current written comprehensive Operation & Maintenance (O&M) Plan. 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. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

1) The permittee **is not authorized** to receive septage into its waste water treatment facility.

2) Holding tank waste water is authorized and shall be recorded as holding tank waste water and should be reported in the treatment facility's influent flow.

L. COMBINED SEWER OVERFLOWS (CSO's)

Pursuant to Chapter 570 of Department Rules, *Combined Sewer Overflow Abatement,* the permittee is authorized to discharge from the following locations of combined sewer overflows (CSO's) (stormwater and sanitary wastewater) subject to the conditions and requirements herein.

1. CSO locations

Outfall #	Location	Receiving Water & Class
002	Prentiss Street	Penobscot River, Class B
003	Gilman Falls Avenue	Penobscot River, Class B
004	Stillwater Avenue	Stillwater River, Class C

2. Prohibited Discharges

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

SPECIAL CONDITIONS

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

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

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

3. Narrative Effluent Limitations

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

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

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

d) Notwithstanding specific conditions of this permit, the effluent by itself or in combination with other discharges shall not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

4. CSO Master Plan (see Sections 2 & 3 of Chapter 570 Department Rules)

The permittee shall implement CSO control projects in accordance with an approved CSO Master Plan and abatement schedule. The CSO Master Plan entitled *City of Old Town Pollution CSO Master Plan Final report*, dated November 2000 was approved by the Department on December 28, 2002.

By September 30, 2004, ***(PCS Code 11099)*** the permittee shall submit to the Department for review and approval, a sewer system evaluation report for the Blueberry Hill area above CSO #003 (Gillman Falls Ave.).

By November 30, 2008 ***(PCS Code 06699)***, the permittee shall submit to the Department for review and approval, an updated CSO Master Plan and abatement schedule.

To modify the dates and or projects specified above, the permittee must file an application with the Department to formally modify this permit.

SPECIAL CONDITIONS

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

All other projects in the approved abatement schedule may be administratively amended from time to time based on mutual agreements between the permittee and the Department. The permittee must notify the Department in writing prior to any proposed changes to the implementation schedule.

5. Nine Minimum Controls (NMC) (see Section 5 Chapter 570 of Department Rules)
The permittee shall implement and follow the Nine Minimum Controls documentation as approved by EPA on May 29, 1997. Work preformed on the Nine Minimum Controls during the year shall be included in the annual CSO Progress Report (see below).

6. CSO Compliance Monitoring Program (see Section 6 Chapter 570 of Department Rules)
The permittee shall conduct block testing or flow monitoring according to an approved *Compliance Monitoring Program* on all CSO points, as part of the CSO Master Plan. Annual flow volumes for all CSO locations shall be determined by actual flow monitoring, or by estimation using a model such as EPA's Storm Water Management Model (SWMM).

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

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

7. Additions of New Wastewater (see Section 8 Chapter 570 of Department Rules)

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

SPECIAL CONDITIONS

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

8. Annual CSO Progress Reports (see Section 7 of Chapter 570 of Department Rules)

   By March 1 ***(PCS Code 33101),*** of each year the permittee shall submit *CSO Progress Reports* covering the previous calendar year (January 1 to December 31). The CSO Progress Report shall include, but is not necessarily limited to, the following topics as further described in Chapter 570: CSO abatement projects, schedule comparison, progress on inflow sources, costs, flow monitoring results, CSO activity and volumes, nine minimum controls update, sewer extensions, and new commercial or industrial flows.

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

   CSO Coordinator
   Department of Environmental Protection
   Bureau of Land and Water Quality
   Division of Engineering, Compliance and Technical Assistance
   17 State House Station
   Augusta, Maine 04333
   e-mail: CSOCoordinator@state.me.us

9. Signs

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

   CITY OF OLD TOWN
   WET WEATHER
   SEWAGE DISCHARGE
   CSO # AND NAME

SPECIAL CONDITIONS

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

10. Definitions

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

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

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

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

M. CHAPTER 530.5(B)(7)(c)(iii) CERTIFICATION

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:

1. Increases in the number, types and flows of industrial, commercial or domestic discharges to the facility that in the judgment of the Department may cause the receiving water to become toxic.

2. Changes in the condition or operations of the facility that may increase the toxicity of the discharge.

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

4. Increases in the type or volume of hauled wastes accepted by the facility.

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

SPECIAL CONDITIONS

N. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at 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 effluent and/or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

ATTACHMENT A

FRESHWATER WHOLE EFFLUENT TOXICITY (WET) TEST REPORT

Facility _____ DEP License No. _____ NPDES permit No _____

Contact person _____ Telephone No _____

Date initially sampled _____ (mm/dd/yy) Date tested _____ (mm/dd/yy) Chlorinated? _____

Test type screening _____ surveillance _____ Dechlorinated? _____

Test required by: DEP/EPA

Results % effluent

	Water flea	Trout	Fathead
LC50			
A-NOEL			
C-NOEL			

Receiving Water Concentration

A-NOEL	
C-NOEL	

Data summary

	water flea			trout			fat head		
	% survival		no. young	% survival		final wt (mg)	% survival		final wt (mg)
QC standard	A>90	C>80	>15/female	A>90	C>80	>2% increase	A>89	C>79	>0.25
lab control									
river water control									
conc. 1 (%)									
conc. 2 (%)									
conc. 3 (%)									
conc. 4 (%)									
conc. 5 (%)									
conc. 6 (%)									
stat test used									

place * next to values statistically different from controls for trout show final wt and % incr for both controls

Reference toxicant

	water flea		trout		fat head	
	LC50/A-NOEL	C-NOEL	LC50/A-NOEL	C-NOEL	LC50/A-NOEL	C-NOEL
toxicant / date						
limits (mg/l)						
results (mg/l)						

Comments _____

Laboratory Conducting Test. To the best of my knowledge this information is true, accurate, and complete

signature _____ company _____

printed name _____ address _____

tel. no. _____

Report analytical chemistry on reverse side.

ANALYTICAL CHEMISTRY RESULTS
FRESHWATER TESTS

Date collected _____ mm/dd/yy

Date analyzed _____ mm/dd/yy

Lab ID No. _____

Analyte	Report Units	Results receiving water	Results effluent	Detection level	Method
Alkalinity	mg/L			mg/L	
Ammonia nitrogen	µg/L			µg/L	
Specific conductance	µmhos			µmhos	
Total residual chlorine	mg/L			mg/L	
Total organic carbon	mg/L			mg/L	
Total solids	mg/L			mg/L	
Total suspended solids	mg/L			mg/L	
Total aluminum	µg/L			µg/L	
Total cadmium	µg/L			µg/L	
Total calcium	mg/L			mg/L	
Total chromium	µg/L			µg/L	
Total copper	µg/L			µg/L	
Total hardness	mg/L			mg/L	
Total lead	µg/L			µg/L	
Total magnesium	µg/L			µg/L	
Total nickel	µg/L			µg/L	
Total zinc	µg/L			µg/L	
other (pH)	S.U.			S.U.	
other ( )					

Comments

Laboratory conducting test. To the best of my knowledge this information is true, accurate, and complete

signature _____ lab name _____

printed name _____ address _____

tel. no. _____

ATTACHMENT B

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
CSO ACTIVITY AND VOLUMES

MUNICIPALITY OR DISTRICT	
REPORTING YEAR	
YEARLY TOTAL PRECIPITATION	INCHES

MEPDES / NPDES PERMIT NO.	
SIGNED BY:	
DATE:	

CSO EVENT NO.	START DATE OF STORM	PRECIP. DATA		FLOW DATA (GALLONS PER DAY) OR BLOCK ACTIVITY("1")							
		TOTAL INCHES	MAX. HR. INCHES	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	LOCATION: NUMBER:	EVENT OVERFLOW GALLONS	EVENT DURATION HRS
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
	TOTALS										

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

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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **March 22, 2004**

PERMIT NUMBER: **ME0100471**
LICENSE NUMBER: **W001635-5L-C-R**

NAME AND ADDRESS OF APPLICANT:

City of Old Town
150 Brunswick Street
Old Town, Maine 04468-1497

COUNTY: **Penobscot County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

298 Water Street
Old Town, Maine 04468-1947

RECEIVING WATER/CLASSIFICATION: **Penobscot River/Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Gary Stetson, Superintendent**
(207) 827-3970

1. APPLICATION SUMMARY

Application: The applicant has applied to the Department for renewal of Department Waste Discharge License (WDL) #W001635-5L-B-R which was issued on November 4, 1999 and is due to expire on November 4, 2004. The 11/4/99 WDL authorized the discharge of up to a monthly average flow of 1.70 million gallons per day (MGD) of secondary treated sanitary waste waters from a municipal waste water treatment facility to the Penobscot River, Class B, in Old Town, Maine. See Attachment A of this Fact Sheet for a location map. The 11/4/99 WDL also authorized the discharge of an unspecified quantity of untreated combined sanitary and storm water from three (3) combined sewer overflow (CSO) outfalls. Two CSO's discharge to the Penobscot River, Class B, and one CSO discharges to the Stillwater River, Class C. It is noted the waste water treatment facility is currently being upgraded (scheduled for completion in 2004) to mitigate CSO events. The upgrade will provide the facility with the ability to provide primary treatment and disinfection for flows conveyed to the treatment facility that exceed the capacity of the secondary treatment process.

2. PERMIT SUMMARY

a. Regulatory: On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program that will utilize a permit number of #ME0100471 (same as NPDES permit) as the primary reference number for the City of Old Town's MEPDES permit. NPDES permit #ME0100471 last issued by the EPA on February 3, 2000 will be replaced by the final MEPDES permit upon issuance. Once replaced, all terms and conditions of the NPDES become null and void.

b. Terms and Conditions - **This permitting action is similar to the 11/4/99 WDL action in that it is;**

Secondary Treated Waste Waters:

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

2. Carrying forward the monthly average and weekly average technology based mass limitations for BOD and TSS based on the previous monthly average flow limitation of 1.70 MGD due to potential non-attainment of dissolved oxygen standards in the Penobscot River below the permittee's waste water treatment facility. These limits are applicable between June 1 – September 30 of each year.

3. Carrying forward the reporting requirement for the daily maximum mass loadings for BOD_5 and TSS.

4. Carrying forward the daily maximum technology based concentration limit for settleable solids.

5. Carrying forward the seasonal (May 15 – September 30) monthly average and daily maximum water quality based concentration limits for *E. coli* bacteria.

6. Carrying forward the daily maximum technology based concentration limit for total residual chlorine.

7. Carrying forward the screening level whole effluent toxicity (WET) and chemical specific (priority pollutant) testing.

This permitting action is different than the 11/4/99 WDL action in that it is;

Secondary Treated Waste Waters:

8. Increasing the monthly average flow limitation from 1.70 MGD to 3.5 MGD.

2. PERMIT SUMMARY (cont'd)

9. Establishing a requirement for achieving a minimum of 85% removal for BOD5 and TSS.

10. Revising the daily maximum technology based pH range limit from 6.0 – 8.5 standard units to 6.0 – 9.0 standard units based on a new Department regulation.

11. Establishing a seasonal (June 1 – September 30) monitoring requirement for total phosphorus.

12. Requiring the permittee to periodically update the Operation and Maintenance (O&M) Plan and Wet Weather Management Plan for the waste water treatment facility and pump stations.

Primary Treated Waste Waters:

13. Establishing a daily maximum water quality based limit for *E. coli* bacteria and a daily maximum technology based limit for total residual chlorine.

14. Establishing monthly average and or daily maximum reporting requirements for flow, surface overflow rates, number of discharge days per month and percent removal for BOD5 and TSS.

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

November 4, 1999 – The Department issued WDL renewal #W001635-5L-B-R for a five-year term.

February 3, 2000 – The USEPA issued NPDES permit renewal #ME0100471 for a five-year term.

May 23, 2000 – The Department administratively modified the 11/4/99 WDL by establishing interim average and maximum limitations of 18.6 ng/L and 27.8 ng/L respectively, for the discharge of mercury.

November 2000 – The City of Old Town completed a comprehensive facility evaluation and CSO Master Plan for the waste water treatment facility. Both plans were reviewed and approved by the Department on December 28, 2002.

January 20, 2004 – The City of Old Town submitted an application to the Department to renew the WDL for the facility.

2. PERMIT SUMMARY (cont'd)

d. Source Description: The Old Town waste water treatment facility commenced operations in 1977. The facility receives sanitary waste water flows from residential and commercial users in the City of Old Town (≅9,000 users) and from the Town of Milford (≅3,000 users). See Attachment A of this Fact Sheet for a location map. The permittee has one significant commercial user contributing flow to the treatment facility, LaBree's Bakery. The sewer collection system is approximately 25 miles in length, has six pump stations (four with on-site backup power and two served by a portable generator) and is 5% combined and 95% separated with three combined sewer overflow (CSO) points. Old Town has developed a CSO Master Plan to eliminate the three CSO's that were formally approved by the Department on December 28, 2002. See Special Condition L, *Combined Sewer Overflows (CSO's)* of this permit. The waste water treatment facility is not authorized to accept septage.

e. Waste Water Treatment: The Old Town facility provides a secondary level of treatment via ten rotating biological contactors (RBC's). See Attachment B of this Fact Sheet for a schematic of the waste water treatment process. The City of Old Town began construction on a major upgrade of the facility in calendar year 2002 and is scheduled for substantial completion on or about the time of issuance of this permit. The primary objective of the upgrade was to modernized the secondary treatment process at the facility and provide the necessary infrastructure to mitigate CSO's by providing a treatment train to provide primary treatment (dedicated storm clarifier) and high rate disinfection for flows that exceed a flow rate of 3,260 gallons per minute (4.7 MGD), the peak hourly capacity of the secondary treatment process. Other major project components included in the upgrade included new and expanded influent pumping facilities, a new headworks building containing new screening and grit removal facilities, two new primary clarifiers (each measuring 32 feet in diameter) modifications to the RBC treatment process, upgrades to the two secondary clarifiers (each 50 feet in diameter), upgrades to the disinfection system, new process control systems, and new electrical systems.

The primary treated and secondary treated waste waters are seasonally disinfected with sodium hypo-chlorite in a separate chlorine contact chamber and the flows are measured by an ultrasonic flow meter prior to being discharged to the Penobscot River via a high density poly-ethylene (HDPE) pipe measuring 36 inches in diameter that extends out into the river approximately 250 feet. The end of the outfall pipe is fitted with a diffuser measuring 34 feet long with 20 6-inch diameter holes spaced 18 inches on-center. The waste water treatment facility is designed for secondary treatment of an average daily flow of 3.50 MGD and a peak hourly capacity of 4.7 MGD.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, 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, Maine law, 38 M.R.S.A., Section 420, and Department Regulation Chapter 530.5, *Surface Water Toxics Control Program* requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

4. RECEIVING WATER STANDARDS

Maine law, 38 M.R.S.A., Section 467(7)(A)(4) classifies the Penobscot River at the point of discharge and downstream as a Class B waterway. Maine law, 38 M.R.S.A., Section 465(3) describes standards for classification of Class B waters.

5. RECEIVING WATER CONDITIONS

The *2002 Integrated Water Quality Monitoring and Assessment Report*, published by the Department, often referred to as the 305b report, lists a 24.6-mile Class B segment of the Penobscot River (Orson Island to Reed Brook) in a table entitled, *Category 4B-1: Rivers And Streams Impaired By Pollutants, Pollution Control Requirements Reasonably Expected To Result In Attainment.* The report indicates the 24.6-mile segment of river is not attaining the designated use of fishing (consumption) due to the presence of dioxin in fish tissue. The "pollution control requirements reasonably expected to result in attainment" referred to in the title of the table include the installation of oxygen and chlorine dioxide bleaching sequences at the kraft mills in Lincoln and Old Town.

In the summers of 1997 and 2001, the Department conducted ambient water quality sampling on a 103-mile segment of the Penobscot River from Millinocket to Bucksport. In reports entitled *Penobscot River Modeling Report, Final, June 2000,* and *Penobscot River Data Report May 2002*, prepared by the Department indicates there may be Class B sections of the river totaling 51 miles, failing to attain minimum dissolved oxygen standards. The segment of the Penobscot River of concern regarding this permitting action is below the waste water treatment facilities for the City of Old Town, Town of Veazie, City of Bangor and City of Brewer. Dissolved oxygen standards may not be attained with the treatment plant flows and loadings at actual levels of performance rather than at full permitted flows and loadings. The Department is scheduled to perform a comprehensive evaluation of the data collected to date and collect additional data if necessary to calibrate an existing model of the river in calendar years 2004-2005. If the evaluation and modeling runs determine that at full permitted discharge limits, the City of Old Town's discharge is causing or contributing to the non-attainment, this permit will be re-opened per Special Condition N, *Reopening of Permit For Modifications*, to impose more stringent limitations to meet water quality standards. The Department intends to keep the 51 miles of river suspected of not meeting applicable

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Secondary Treated Effluent

dissolved oxygen standards in categories entitled, *Category 4-B1 : Rivers And Streams Impaired By Pollution Control Requirements Reasonably Expected To Result In Attainment* and *Category 4-B2: Rivers And Streams With Combined Sewer Overflows And Current Master Plans For Abatement* in the 2004 305b report.

a. Flow: The monthly average flow limitation of 1.70 MGD in the previous licensing action is being increased to 3.50 MGD in this permitting action. The new flow value was developed after an engineering evaluation of the capacity of the secondary treatment process when designing the secondary bypass treatment system. The 3.50 MGD value is considered to be representative of flows at which the waste water treatment facility can provided a secondary level of treatment (via concentration) for periods of time ranging from a couple of days up to 30 days.

b. Dilution Factors - The Department established applicable dilution factors for the discharge in accordance with freshwater protocols established in Department Rule Chapter 530.5, *Surface Water Toxics Control Program*, October 1994. With a WDL flow limit of 3.50 MGD the dilution factors are as follows:

Acute: 1Q10 = 2,521 cfs[(1)] $\Rightarrow \frac{(2{,}521\text{ cfs})(0.6464) + (3.50\text{ MGD})}{(3.50\text{ MGD})} = 466:1$

Chronic: 7Q10 =2,795 cfs[(1)] $\Rightarrow \frac{(2{,}795\text{ cfs})(0.6464) + (3.50\text{ MGD})}{(3.50\text{ MGD})} = 517:1$

Harmonic Mean: = 8,404 cfs[(1)] $\Rightarrow \frac{(8{,}404\text{ cfs})(0.6464) + (3.50\text{ MGD})}{(3.50\text{ MGD})} = 1{,}553:1$

Footnotes:

(1) It is noted the dilution factors are lower than the dilution factors calculated in the previous licensing action as the 7Q10 and 1Q10 critical low flow values were recalculated (lowered) in calendar year 2003 during the Department's update of the water quality model for the Penobscot River. In addition, the monthly average flow limitation has increased from 1.70 MGD to 3.50 MGD.

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): - The previous licensing established technology based monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that were based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR 133.102 and Department rule Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action.

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

Secondary Treated Effluent

As for mass limitations, this permitting action is establishing seasonal monthly average and weekly average limitations based on a monthly average flow limit of 1.70 MGD during the period June 1 – September 30 of each year and 3.50 MGD for the period October 1 – May 31 of each year. The purpose of the seasonal limitations are: 1) The waste water treatment facility has substantially completed an upgrade to treat more storm water flows in the non-summer months to mitigate CSO discharges resulting in more waste water receiving both primary only and secondary treatment, 2) Ambient water quality data collected by the Department during the summer months indicates the Penobscot River may not be attaining the Class B dissolved oxygen standards established by law. Therefore, the Department is barred from authorizing an increase in the BOD and TSS loading to the river during the time of the year when the river is most at risk of dissolved oxygen depletion. Should future water quality data and or modeling indicate dissolved oxygen standards are indeed being attained at the higher mass loads, the permittee may request a modification of this permit to increase the loads based on 3.5 MGD. The seasonal monthly and weekly average mass limitations were calculated as follows:

June 1 – September 30

Monthly average: (1.70 MGD)(8.34)(30 mg/L) = 425 lbs/day
Weekly average: (1.70 MGD)(8.34)(45 mg/L) = 638 lbs/day

October 1 – May 31

Monthly average: (3.50 MGD)(8.34)(30 mg/L) = 875 lbs/day
Weekly average: (3.50 MGD)(8.34)(45 mg/L) = 1,314 lbs/day

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

This permitting action also establishes a new requirement of 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3).

Monitoring frequencies for BOD and TSS of 3/Week are being carried forward from the previous licensing action and are based on Department policy for facilities with a monthly average flow greater than 1.0 MGD but less than 5.0 MGD.

d. Settleable Solids - The previous license established a technology BPT based daily maximum concentration limit of 0.3 ml/L that is being carried forward in this permitting action.

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

Secondary Treated Effluent

e. *E. coli.* bacteria: The monthly average and daily maximum *E. coli* bacteria limits of 64 colonies/100 ml and 427 colonies/100 ml in the previous licensing action are being carried forward in this permitting action and are based on the State of Maine Water Classification Program criteria for Class B waters.

f. Total Residual Chlorine - The previous licensing action established a daily maximum BPT limit of 1.0 mg/L for the discharge. Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of the water quality or technology based limits in permitting actions. End-of-pipe water quality based concentration thresholds may be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	0.019 mg/L	0.011 mg/L	466:1	517:1	8.8 mg/L	5.6 mg/L

Example calculation: Acute – 0.019 mg/L (466) = 8.8 mg/L

In the case of the Old Town facility, the calculated acute water quality based threshold is higher than 1.0 mg/l, thus the BPT limit of 1.0 mg/L is imposed as a daily maximum limit.

g. Total phosphorus – This permitting action is establishing a seasonal (June – September) 1/Week monitoring and reporting requirement for total phosphorus due to limited assimilative capacity of the Penobscot River for total phosphorus. Gathering such data will enable the Department to continually update the river model to predict potential algal blooms that may lead to depressed ambient dissolved oxygen conditions and assist the Department in determining which discharges are or are not causing or contributing any non-attainment segments of the river.

h. pH Range- The previous licensing action established a pH range limitation of 6.0 - 8.5 standard units. The limits were based on Maine Board of Environmental Protection Policy regarding the certification of NPDES permits and were considered BPT limitations. This permitting action is shifting the range limit from 6.0 – 8.5 to 6.0 –9.0 standard units pursuant to a new Department rule found at Chapter 525(3)(III)(c). The new limits are considered BPT.

i. Whole Effluent Toxicity (WET) and Chemical Specific Testing Maine Law, 38 M.R.S.A., Sections 414-A and 420, prohibits the discharge of effluents containing substances in amounts which 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 EPA. Department Rules, 06-096 CMR Chapter 530.5, *Surface Water Toxics Control Program*, set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

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

Secondary Treated Effluent

WET and chemical specific (priority pollutant) testing, as required by Chapter 530.5, is included in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the waste water, existing treatment and receiving water characteristics.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Chemical specific, or "priority pollutant (PP)," testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria.

The Chapter 530.5 regulation places the Old Town facility in the low frequency category for WET testing as the facility had a chronic dilution factor greater than 100:1 and in the high frequency testing category for chemical specific testing as the facility was licensed to discharge greater than 1.0 MGD.

A recent review of Old Town's data indicates that they have fulfilled the Chapter 530.5 testing requirements to date. See Attachment C of this Fact Sheet for a summary of the WET test results and Attachment D of this Fact Sheet for a summary of the chemical specific test dates. It is noted that in the previous licensing action, Old Town was grant a reduction in WET and chemical specific testing to screening level testing only (one year prior to the expiration date of the license) as it met the criteria to do so pursuant to Department rule Chapter 530.5(B)(7)(c)(iii).

Department Rule Chapter 530.5 and Protocol E(1) of a document entitled *Maine Department of Environmental Protection, Toxicity Program Implementation Protocols*, dated July 1998, states that statistical evaluations shall be periodically performed on the most recent 60 months of WET and chemical specific data for a given facility to determine if water quality based limitations must be included in the permit.

Chapter 530.5 §C(2) states when a discharge *"...contains pollutants at levels that have a reasonable potential to cause or contribute to an ambient excursion in excess of a numeric or narrative water quality criterion, appropriate water quality based limits must be established in the permit upon issuance."*

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

Secondary Treated Effluent

Chapter 530.5 §C(3) also states that if data indicates that a discharge is causing an exceedence of applicable AWQC, then: *"(1) the Department must notify the licensee of the exceedence; (2) the licensee must submit a toxicity reduction evaluation (TRE) plan for review and approval within 30 days of receipt of notice and implement the TRE after Department approval; (3) the Department must modify the waste discharge license to specify effluent limits and monitoring requirements necessary to control the level of pollutant and meet receiving water classification standards within 180 days of the Department's approval of the TRE."*

On March 19, 2004, the Department conducted a statistical evaluation on the aforementioned tests results in accordance with the statistical approach outlined in EPA's March 1991 document entitled *Technical Support Document (TSD) for Water Quality Based Toxics Control*, Chapter 3.3.2 and Maine Department of Environmental Protection Guidance, July 1998, entitled *Toxicity Program Implementation Protocols*. The results of the 3/19/04 WET and chemical specific evaluation indicates that the discharge does not exceed or have a reasonable potential to exceed the critical acute or chronic WET thresholds (0.21% and 0.19% respectively – mathematical inverse of the applicable dilution factors) for any of the WET species tested to date or any of the chemical specific elements/compounds tested to date.

The Department establishes the testing frequency for WET or chemical specific parameters that exceed or have a reasonable potential to exceed ambient water quality thresholds/criteria taking into consideration the frequency, timing and severity of the tests results that are at issue. In the absence of exceedences or reasonable potential to exceed critical thresholds or ambient water quality criteria and that the City of Old Town continues to meet the criteria in Department rule Chapter 530.5(B)(7)(c)(iii), the Department has made a best professional judgment to maintain a screening level of testing, 1/Year for WET testing and 4/Year (four consecutive calendar quarters) beginning twelve (12) months prior to the expiration date of the permit.

Primary Treated Effluent

The applicant maintains a combined sewer system from which wet weather overflow have been documented. To address and control these events, the applicant has completed a Master Plan (Long Term Control Plan) for its sewer systems and has considered various control options. The Department approved the Master Plan on December 28, 2002. The plan addresses all of the relevant considerations contained in EPA's CSO Policy, section II.C. See Federal Register, April 19, 1994. One element of the applicant's Master Plan is 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

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

to the treatment plant site. Attempting to do so would cause upsets and damage to the secondary treatment process. Expansion of the secondary 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 EPA'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 be accomplished at the existing treatment facility site. A review of the Master Plan, the design of the existing secondary system and past operational records indicates that secondary treatment can be provided for flows up to a peak hourly flow rate of 3,260 gallons per minute (4.7 MGD) for one hour. However, to assure that the secondary treatment capacity is fully utilized, the permit contains a requirement for a High Flow Management Plan that will be update periodically. Flows delivered to the treatment facility site in excess of that which can be given secondary treatment will receive primary treatment using three overflow clarifiers and disinfection using sodium hypochlorite and dechlorinating with sodium bisulfate to achieve a daily maximum BPT limit of 0.1 mg/L. Since the flow receiving primary treatment will likely be dilute under wet weather conditions, traditional removal rates for primary treatment are not likely to be consistently achieved. Accordingly, the permit requires only monitoring for BOD and TSS, along with Surface Overflow Rate.

Bacterial contamination is the most direct water quality risk from wet weather discharge events and the permit contain limits for fecal coliform bacteria and total residual chlorine for those times of the year when disinfection is required to meet water quality standards. The daily maximum limits for *E. coli* and TRC are established using the same considerations as for the secondary effluent, as described in Section 6 (e&f) of this Fact Sheet.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

The Department acknowledges that the elimination of the three (3) remaining CSO's in the collection system and the secondary bypass (primary treated only) of sanitary waste water is a costly long term project. As Old Town's waste water treatment facility and sewer collection system are upgraded and maintained in according to the CSO Master Plan and Nine Minimum Controls, there should be reductions in the frequency and volume of CSO activities and in the waste water receiving primary treatment only at the treatment plant and over time, improvement in the quality of the waste water discharge to the receiving waters.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY (cont'd)

As for the fish consumption advisory due to presence of dioxin, the Department is not aware of any information that indicates the discharge from the City of Old Town's waste water treatment plant has constituents that are causing or contributing to the fish advisory.

The Department has made a best professional via a current (2003) water quality model that the increase in BOD5 and TSS during the non-summer months as a result of the increased flow limit will not have a significant impact on ambient water quality conditions.

As permitted, the Department of Environmental Protection has made a best professional judgment that existing water uses will be maintained and protected.

8. PUBLIC COMMENTS

Public notice of this application was made in the Penobscot Times newspaper on or about January 22, 2004. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

9. DEPARTMENT CONTACTS

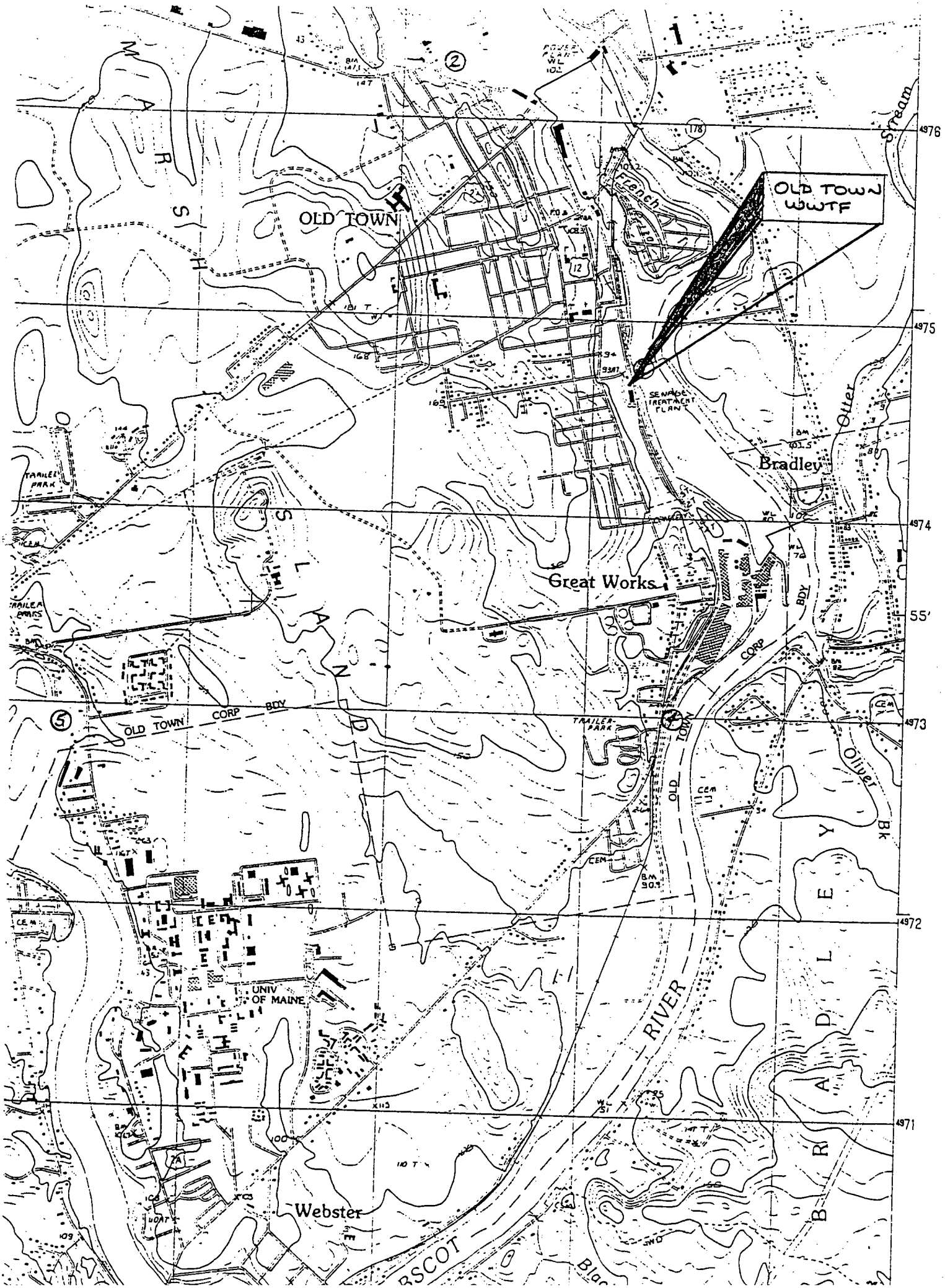
Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7693
E-mail: gregg.wood@maine.gov

10. RESPONSE TO COMMENTS

During the period March 22, 2004 through issuance of the permit, the Department solicited comments from the permittee, state and federal agencies and interested parties on a proposed draft MEPDES permit and Maine WDL. The Department did not receive any substantive comments from any party that resulted in significant revisions to the permit. Therefore, no Response to Comments has been prepared.

ATTACHMENT A


OLD TOWN WWTF
OLD TOWN
Bradley
Great Works
Webster
UNIV OF MAINE
OLD TOWN CORP BDY
SEWAGE TREATMENT PLANT
TRAILER PARK
CEM
RIVER
4976
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4973
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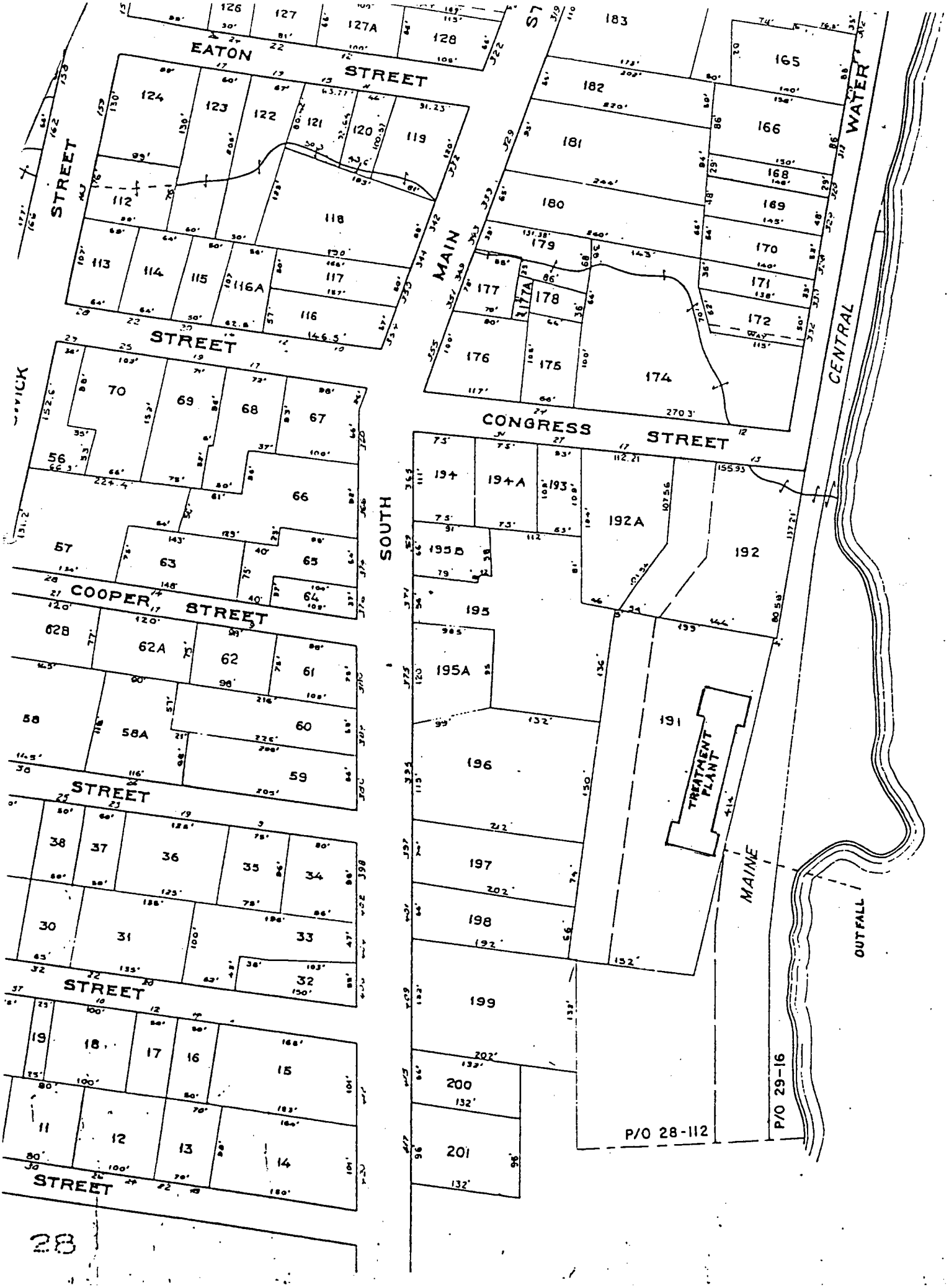
EATON STREET
MAIN ST
WATER
CENTRAL
CONGRESS STREET
SOUTH
COOPER STREET
STREET
MAINE
TREATMENT PLANT
OUTFALL
P/O 29-16
P/O 28-112
28

ATTACHMENT B

ATTACHMENT C

Chronic dilution: 1063.8:1
Acute dilution: 959.6:1

Species	Test	Test Result %	Sample Date
WATER FLEA	C_NOEL	50	10/16/1992
TROUT	LC50	73.2	08/01/1993
FATHEAD	LC50	>100	06/15/1994
WATER FLEA	LC50	>100	06/15/1994
TROUT	LC50	>100	09/01/1994
FATHEAD	A_NOEL	50	09/11/1995
FATHEAD	LC50	67	09/11/1995
TROUT	A_NOEL	100	09/11/1995
TROUT	LC50	>100	09/11/1995
WATER FLEA	A_NOEL	100	09/11/1995
WATER FLEA	LC50	>100	09/11/1995
FATHEAD	A_NOEL	50	06/18/1996
FATHEAD	LC50	>100	06/18/1996
WATER FLEA	A_NOEL	100	06/18/1996
WATER FLEA	LC50	>100	06/18/1996
FATHEAD	A_NOEL	100	06/03/1997
FATHEAD	LC50	>100	06/03/1997
WATER FLEA	A_NOEL	100	06/03/1997
WATER FLEA	LC50	>100	06/03/1997
TROUT	A_NOEL	100	08/18/1997
TROUT	LC50	>100	08/18/1997
WATER FLEA	A_NOEL	100	08/18/1997
WATER FLEA	LC50	>100	08/18/1997
TROUT	A_NOEL	100	08/23/1998
TROUT	C_NOEL	50	08/23/1998
TROUT	LC50	>100	08/23/1998
WATER FLEA	A_NOEL	100	08/23/1998
WATER FLEA	C_NOEL	100	08/23/1998
WATER FLEA	LC50	>100	08/23/1998
TROUT	A_NOEL	55.8	08/01/1999
TROUT	LC50	74.6	08/01/1999
WATER FLEA	A_NOEL	100	08/01/1999
WATER FLEA	C_NOEL	50	08/01/1999
WATER FLEA	LC50	>100	08/01/1999

ATTACHMENT D

Sample Date: 05/16/1999
Plant flows not provided

otal Tests: 136
issing Compounds: 122
ests With High DL: 0

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 05/09/2000
Plant flows provided

otal Tests: 126
issing Compounds: 0
ests With High DL: 0

mon.(MGD) = 7.039
day(MGD) = 7.034

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 01/09/2001
Plant flows not provided

otal Tests: 142
issing Compounds: 1
ests With High DL: 1

M = 1 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 05/07/2002
Plant flows provided

otal Tests: 140
issing Compounds: 0
ests With High DL: 0

mon.(MGD) = 8.670
day(MGD) = 6.966

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 05/06/2003
Plant flows provided

otal Tests: 142
issing Compounds: 0
ests With High DL: 1

mon.(MGD) = 6.781
day(MGD) = 6.357

M = 1 V = 0 A = 0
BN = 0 P = 0 other = 0

Sample Date: 08/17/2003
Plant flows provided

Total Tests: 135
Missing Compounds: 0
Tests With High DL: 0

mon.(MGD) = 4.966
day(MGD) = 4.720

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0