# STATE OF CONNECTICUT
## DEPARTMENT OF ENVIRONMENTAL PROTECTION

### MUNICIPAL NPDES PERMIT

**issued to**

**Permittee:**
The Metropolitan District
555 Main Street, P.O. Box 880
Hartford, CT 06142-0800

**Location Address:**
Poquonock WPCF
1222 Poquonock Avenue
Windsor, CT 06095-1809

**Facility ID:** 164-001 **Permit ID:** CT0100994 **Permit Expires:** November 30, 2010

**Receiving Stream:** Farmington River **Design Flow Rate:** 5.0 MGD

**SECTION 1: GENERAL PROVISIONS**

(A) This permit reissued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and Section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a N.P.D.E.S. permit program.

(B) **The Metropolitan District**, ("permittee"), shall comply with all conditions of this permit including the following sections of the RCSA, which have been adopted pursuant to Section 22a-430 of the CGS and are hereby incorporated into this permit. **Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of Section 22a-430-3.** To the extent this permit imposes conditions more stringent than those found in the regulations, this permit shall apply.

**Section 22a-430-3 General Conditions**
- **(a)** Definitions
- **(b)** General
- **(c)** Inspection and Entry
- **(d)** Effect of a Permit
- **(e)** Duty to Comply
- **(f)** Proper Operation and Maintenance
- **(g)** Sludge Disposal
- **(h)** Duty to Mitigate
- **(i)** Facility Modifications; Notification
- **(j)** Monitoring, Records and Reporting Requirements
- **(k)** Bypass
- **(l)** Conditions Applicable to POTWs
- **(m)** Effluent Limitation Violations
- **(n)** Enforcement
- **(o)** Resource Conservation
- **(p)** Spill Prevention and Control
- **(q)** Instrumentation, Alarms, Flow Recorders
- **(r)** Equalization

**Section 22a-430-4 Procedures and Criteria**
- **(a)** Duty to Apply
- **(b)** Duty to Reapply
- **(c)** Application Requirements
- **(d)** Preliminary Review
- **(e)** Tentative Determination
- **(f)** Draft Permits, Fact Sheets
- **(g)** Public Notice, Notice of Hearing
- **(h)** Public Comments

(i) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications. Approval.
(l) Establishing Effluent Limitations and Conditions
(m) Case-by-Case Determinations
(n) Permit Issuance or Renewal
(o) Permit or Application Transfer
(p) Permit Revocation, Denial or Modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements
(t) Discharges to POTWs - Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this Section of the permit may be punishable as a criminal offense under Section 22a-438 or 22a-131a of the CGS or in accordance with Section 22a-6, under Section 53a-157b of the CGS.

(E) The permittee shall comply with Section 22a-416-1 through Section 22a-416-10 of the RCSA concerning operator certification.

(F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the permittee pursuant to this permit will result in compliance or prevent or abate pollution.

(G) Nothing in this permit shall relieve the permittee of other obligations under applicable federal, state and local law.

(H) An annual fee shall be paid for each year this permit is in effect as set forth in Section 22a-430-7 of the RCSA. As of August 20, 2003 the annual fee is $2557.50.

**SECTION 2: DEFINITIONS**

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in Section 22a-423 of the CGS and Section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "Composite", "No Observable Acute Effect Level (NOAEL)" "Sewage" and "Grab Sample Average" which are redefined below.

(B) In addition to the above, the following definitions shall apply to this permit:

**"------"** in the limits column on the monitoring tables in Attachment 1 means a limit is not specified but a value must be reported on the DMR, MOR, NAR, and/or the ATMR.

**"Annual"** in the context of any sampling frequency found in Attachment 1, shall mean the sample must be collected in the month of June.

**"Average Monthly Limit"** means the maximum allowable "Average Monthly Concentration" as defined in Section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in Section 22a-430-3(a) of the RCSA.

**"Composite"** or **"(C)"** means a sample consisting of a minimum of eight aliquot samples collected at equal intervals of no less than 30 minutes and no more than 60 minutes and combined proportionally to flow over the sampling period provided that during the sampling period the peak hourly flow is experienced.

**"Critical Test Concentration"** or **"(CTC)"** means the specified effluent dilution at which the permittee is to conduct a single-concentration Aquatic Toxicity Test.

**"Daily Composite"** or **"(DC)"** means a composite sample taken over a full operating day consisting of grab samples collected at equal intervals of no more than sixty (60) minutes and combined proportionally to flow; or, a composite sample continuously collected over a full operating day proportionally to flow.

**"Daily Concentration"** means the concentration of a substance as measured in a daily composite sample, or, arithmetic average of all grab sample results defining a grab sample average.

**"Daily Quantity"** means the quantity of waste discharged during an operating day.

**"Geometric Mean"** is the "$n^{th}$" root of the product of "n" observations.

**"Grab Sample Average"** means the arithmetic average of all grab sample analyses.

**"Infiltration"** means water other than wastewater that enters a sewer system (including sewer system and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

**"Inflow"** means water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

**"Instantaneous Limit"** means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

**"In-stream Waste Concentration"** or **"(IWC)"** means the concentration of a discharge in the receiving water after mixing has occurred in the allocated zone of influence.

**"Maximum Daily Limit"** means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l), otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means "Maximum Daily Flow" as defined in Section 22a-430-3(a) of the RCSA.

**"MGD"** means million gallons per day.

**"Monthly Minimum Removal Efficiency"** means the minimum reduction in the pollutant parameter specified when the effluent average monthly concentration for that parameter is compared to the influent average monthly concentration.

**"NA"** as a Monitoring Table abbreviation means **"not applicable"**.

**"NR"** as a Monitoring Table abbreviation means **"not required"**.

**"No Observable Acute Effect Level"** or **"(NOAEL)"** means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test, conducted pursuant to Section 22a-430-3(j)(7)(A)(i) of the RCSA, demonstrating 90% or greater survival of test organisms at the CTC.

**"Quarterly"** in the context of any sampling frequency, shall mean sampling is required in the months of March, June, September, and December.

**"Sanitary Sewage"** means wastewaters from residential, commercial and industrial sources introduced by direct connection to the sewerage collection system tributary to the treatment works including non-excessive inflow/infiltration sources.

**"Semi-Annual"** in the context of sampling frequency, shall mean the sample must be collected in the months of June and December.

**"Septage"** means any water or material withdrawn from a septic tank which is used to treat domestic sewage.

**"Sewage"** means human and animal excretions and all domestic and such manufacturing wastes as may tend to be detrimental to the public health. For purposes of this permit, sewage also includes excessive infiltration and inflow.

**"Sludge"** means solid, semi-solid or liquid residue generated from municipal, residential, commercial or industrial wastewater treatment processes exclusive of the treated effluent, including water treatment wastewater sludges.

**"Twice per Month"** in the context of any sampling frequency, mean two samples per calendar month collected no less than 12 days apart.

**"ug/l"** means micrograms per liter

**"Work Day"** in the context of a sampling frequency means, Monday through Friday excluding official MDC holidays.

## SECTION 3: COMMISSIONER'S DECISION

**(A)** The Commissioner of Environmental Protection ("Commissioner") has issued a final decision and found continuance of the existing system to treat the discharge will protect the waters of the state from pollution. The Commissioner's decision is based on application no. 200403102 for permit reissuance received on December 16, 2004 and the administrative record established in the processing of that application.

**(B)** The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit.

**(C)** The Commissioner reserves the right to make appropriate revisions to the permit, if required after Public Notice, in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

## SECTION 4: GENERAL LIMITATIONS AND OTHER CONDITIONS

**(A)** The Permittee shall not accept any new sources of non-domestic wastewater conveyed to its POTW through its sanitary sewerage system or by any means other than its sanitary sewage system unless the generator of such wastewater; (a) is authorized by a permit issued by the Commissioner under Section 22a-430 CGS (individual permit), or, (b) is authorized under Section 22a-430b (general permit), or, (c) has been issued an emergency or temporary authorization by the Commissioner under Section 22a-6k. All such non-domestic wastewaters shall be processed by the POTW via receiving facilities at a location and in a manner prescribed by the permittee and approved by the Commissioner, which are designed to contain and control any unplanned releases.

**(B)** No new discharge of domestic sewage from a single source to the POTW in excess of 50,000 gallons per day may be authorized by the permittee until the discharger has registered the discharge under the "General Permit for Domestic Sewage" reissued by the Commissioner on June 12, 2002 pursuant to Section 22a-430b of the CGS.

**(C)** The permittee shall maintain a system of user charges based on dedicated taxes or other fees sufficient to operate and maintain the POTW (including the collection system) and replace critical components.

**(D)** The permittee shall maintain a sewer use ordinance that is consistent with the Model Sewer Ordinance for Connecticut Municipalities prepared by the Department of Environmental Protection. The Commissioner of Environmental Protection alone may authorize certain discharges, which may not conform to the Model Sewer Ordinance.

**(E)** No discharge shall contain or cause in the receiving stream: visible oil sheen, floating solids or visible discoloration.

**(F)** No discharge from this permitted source shall cause acute or chronic toxicity in the receiving water body beyond any Zone Of Influence (ZOI) specifically allocated to any discharge in this permit.

**(G)** The permittee shall maintain an alternate power source adequate to provide full operation of all pump stations in the sewerage collection system and to provide a minimum of primary treatment and disinfection at the water pollution

control facility to insure that no discharge of untreated wastewater will occur during a failure of a primary power source.

**(H)** The average monthly effluent concentration shall not exceed 15% of the average monthly influent concentration for $CBOD_5$ and Total Suspended Solids for all daily composite samples taken in a thirty calendar day period.

**(I)** Any new or increased amount of sanitary sewage discharge to the sewer system is prohibited where it will cause a dry weather overflow.

**(J)** Sludge Conditions

**(1)** The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including but not limited to 40 CFR Part 503.

**(2)** If an applicable management practice or numerical limitation for pollutants in sewage sludge more stringent than existing federal and state regulations is promulgated under Section 405(d) of the Clean Water Act (CWA), this permit shall be modified or revoked and reissued to conform to the promulgated regulations.

**(3)** The permittee shall give prior notice to the Commissioner of any change(s) planned in the permittees' sludge use or disposal practice. A change in the permittees' sludge use or disposal practice may be a cause for modification of the permit.

**(4)** Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised.

**(K)** The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedence of permit limits will be considered non-compliance.

**(L)** When the arithmetic mean of the average daily flow from the POTW for the previous 180 consecutive calendar days exceeds 90% of the design flow rate, the permittee shall develop and submit for the review of the Commissioner within one year of the $180^{th}$ day, a plan to accommodate future increases in flow to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.

**(M)** When the arithmetic mean of the average daily $CBOD_5$ or TSS loading into the POTW for the previous 180 consecutive calendar days exceeds 90% of the design load rate, the permittee shall develop and submit for the review of the Commissioner within one year of the $180^{th}$ day, a plan to accommodate future increases in load to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.

**(N)** On or before July $31^{st}$ of each calendar year the main flow meter shall be calibrated in accordance with the manufacturer's specifications. The actual record of the calibration shall be retained onsite and, upon request, the permittee shall submit to the Commissioner a copy of that record.

**(O)** The permittee shall operate and maintain all processes as installed in accordance with the approved plans and specifications and as outlined in the associated operation and maintenance manual and/or standard operating procedures for the purposes of the optimal removal of pollutants. This includes but is not limited to all recycle pumping systems, aeration equipment, aeration tank cycling, mixing equipment, anoxic basin, chemical feed systems, effluent filters or any other process equipment necessary for the optimal removal of pollutants. The permittee shall not bypass or fail to operate any of the approved equipment or processes without the written approval of the Commissioner.

**(P)** On or before 2.5 years from the issuance of this permit each anaerobic digester unit shall be sampled, in a manner approved in writing by the Commissioner, to determine the amount of grit and depth of scum blanket. The results of the sampling shall be maintained at the POTW and, upon request, the permittee shall submit to the Commissioner a copy of the sampling data.

**(Q)** The permittee is hereby authorized to accept septage at the treatment facility or other locations as approved by the Commissioner.

(R) The temperature of any discharge shall not increase the temperature of the receiving stream above 85°F, or, in any case, raise the normal temperature of the receiving stream more than 4°F beyond the ZOI for thermal impact.

(S) The permittee shall maintain compliance with Section 11.1.3 of the U.S. EPA Guidance Manual for Construction Grants 1985 (CG-85) concerning use of mercury seals.

## SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The discharge(s) shall not exceed and shall otherwise conform to the specific terms and conditions listed in this permit. The discharge is restricted by, and shall be monitored in accordance with Tables A through F incorporated in this permit as Attachment 1.

(B) The Permittee shall monitor the performance of the treatment process in accordance with the Monthly Operating Report (MOR) and the Nutrient Analysis Report (NAR) incorporated in this permit as Attachment 2.

## SECTION 6: SAMPLE COLLECTION, HANDLING and ANALYTICAL TECHNIQUES

(A) Chemical Analysis

(1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit, shall be performed using the methods approved pursuant to the Code of Federal Regulations, Part 136 of Title 40 (40 CFR 136) unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in Section 22a-430-3-(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 or the RCSA shall be analyzed in accordance with methods specified in this permit.

(2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal, as defined in 40 CFR 136 unless otherwise specified.

(3) Grab samples shall be taken during the period of the day when the peak hourly flow is normally experienced.

(4) Samples collected for bacteriological examination shall be collected between the hours of 11 a.m. and 3 p.m. or at that time of day when the peak hourly flow is normally experienced. A chlorine residual sample must be taken at the same time and the results recorded.

(5) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Attachment 1, Tables A and B. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

| Parameter | Minimum Level |
|---|---|
| Antimony, Total | 0.010 mg/l |
| Arsenic, Total | 0.005 mg/l |
| Beryllium, Total | 0.001 mg/l |
| Cadmium, Total | 0.0005 mg/l |
| Chlorine, Total Residual | 0.050 mg/l |
| Chromium, Total | 0.005 mg/l |
| Chromium, Total Hexavalent | 0.010 mg/l |
| Copper, Total | 0.005 mg/l |
| Cyanide, Total | 0.010 mg/l |
| Lead, Total | 0.005 mg/l |
| Mercury, Total | 0.0002 mg/l |
| Nickel, Total | 0.005 mg/l |
| Selenium, Total | 0.005 mg/l |
| Silver, Total | 0.002 mg/l |
| Thallium, Total | 0.010 mg/l |
| Zinc, Total | 0.020 mg/l |

(6) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this Section of the permit.

(7) Effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this Section and which indicate that a parameter was not detected shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.

(8) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

**(B)** Acute Aquatic Toxicity Test

(1) Samples for monitoring of Acute Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012).

**(a)** Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 0-6$^0$C until Acute Aquatic Toxicity testing is initiated.

**(b)** Samples shall be taken post dechlorination for Acute Aquatic Toxicity unless otherwise approved in writing by the Commissioner for monitoring at this facility.

**(c)** Chemical analyses of the parameters identified in Attachment 1, Table B shall be conducted on an aliquot of the same sample tested for Acute Aquatic Toxicity.

**(i)** At a minimum, pH, specific conductance, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Acute Aquatic Toxicity tests, in the highest concentration of the test and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

**(d)** Tests for Acute Aquatic Toxicity shall be initiated within 36 hours of sample collection.

(2) Monitoring for Acute Aquatic Toxicity to determine compliance with the permit condition on Acute Aquatic Toxicity (invertebrate) shall be conducted for 48 hours utilizing neonatal (less than 24 hours old) *Daphnia pulex.*

(3) Monitoring for Acute Aquatic Toxicity to determine compliance with the permit condition on Acute Aquatic Toxicity (vertebrate) shall be conducted for 48 hours utilizing larval (1 to 14-days old with no more than 24 hours range in age) *Pimephales promelas.*

(4) Tests for Acute Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012), except as specified below.

**(a)** For Acute Aquatic Toxicity limits, and for monitoring only conditions, expressed as a NOAEL value, Pass/Fail (single concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Acute Aquatic Toxicity limit, (100% in the case of monitoring only conditions), as prescribed in Section 22a-430-3(j)(7)(A)(i) of the RCSA.

**(b)** Organisms shall not be fed during the tests.

**(c)** Synthetic freshwater prepared with deionized water adjusted to a hardness of 50±5 mg/L as $CaCO_3$ shall be used as dilution water in the tests.

**(d)** Copper nitrate shall be used as the reference toxicant.

(5) For monitoring only conditions, toxicity shall be demonstrated when the results of a valid pass/fail Acute Aquatic Toxicity Test indicates less than 90% survival in the effluent at the CTC (100%).

## SECTION 7: RECORDING AND REPORTING REQUIREMENTS

(A) The results of chemical analyses and any aquatic toxicity test required above in Section 5 and the referenced Attachment 1 shall be entered on the Discharge Monitoring Report (DMR) and reported to the Bureau of Water Management. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR must be received at the following address by the 15th day of the month following the month in which samples are collected.

ATTN: Municipal Wastewater Monitoring Coordinator
Connecticut Department of Environmental Protection
Bureau of Water Management, Planning and Standards Division
79 Elm Street
Hartford, Connecticut 06106-5127

(1) For composite samples, from other than automatic samplers, the instantaneous flow and the time of each aliquot sample collection shall be recorded and maintained at the POTW.

(B) Complete and accurate test data, including percent survival of test organisms in each replicate test chamber, $LC_{50}$ values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Management at the address specified above in Section 7 (A) of this permit by the 15th day of the month following the month in which samples are collected.

(C) The results of the process monitoring required above in Section 5 shall be entered on the Monthly Operating Report (MOR) and Nutrient Analysis Report (NAR) forms, included herein as Attachment 2, and reported to the Bureau of Water Management. The MOR report shall also be accompanied by a detailed explanation of any violations of the limitations specified. The MOR and NAR must be received at the address specified above in Section 7 (A) of this permit by the 15th day of the month following the month in which the data and samples are collected.

## SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

(A) If any Acute Aquatic Toxicity sample analysis indicates toxicity, or that the test was invalid, a second sample of the effluent shall be collected and tested for Acute Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Water Management (Attn: Aquatic Toxicity) via the ATMR form (see Section 7 (B)) within 30 days of the previous test. These test results shall also be reported on the next month's DMR report pursuant to Section 7 (A). The results of all toxicity tests and associated chemical parameters, valid and invalid, shall be reported.

(B) If any two consecutive test results or any three test results in a twelve month period indicates acute aquatic toxicity, the permittee shall immediately take all reasonable steps to eliminate acute aquatic toxicity wherever possible and shall submit a report, to the Bureau of Water Management (Attn: Aquatic Toxicity), for the review and written approval of the Commissioner in accordance with Section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the permittee shall comply with any schedule approved by the Commissioner.

(C) Section 22a-430-3(k) of the RCSA shall apply in all instances of bypass including a bypass of the treatment plant or a component of the sewerage collection system planned during required maintenance. The Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division (860) 424-3704, the Department of Public Health, Water Supply Section (860) 509-7333 and Recreation Section (860) 509-7297, and the local Director of Health shall be notified within 2 hours of MDC learning of the event by telephone during normal business hours and by a written report submitted to the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division, Municipal Facilities Section within five days of each occurrence, or potential occurrence, of a discharge or bypass of untreated or partially treated sewage. If the diversion or bypass

occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday), within two hours of MDC learning of the event notification shall be made to the Emergency Response Unit at (860) 424-3338 and the Department of Public Health at (860) 509-8000.

The written report shall contain:

(1) The nature and cause of the bypass,

(2) the time the incident occurred and the anticipated time which it is expected to continue or, if the condition has been corrected, the duration,

(3) the estimated volume of the bypass or discharge of partially treated or raw sewage,

(4) the steps being taken to reduce or minimize the effect on the receiving waters, and

(5) the steps that will be taken to prevent reoccurrence of the condition in the future.

**(D)** Section 22a-430-3(j) 11 (D) of the RCSA shall apply in the event of any noncompliance with a maximum daily limit and/or any noncompliance that is greater than two times any permit limit. The permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division except, if the noncompliance occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday) the permittee may wait to make the verbal report until 10:30 am of the next business day after learning of the noncompliance.

**(E)** Section 22a-430-3(j) 8 of the RCSA shall apply in all instances of monitoring equipment failures that prevent meeting the requirements in this permit. In the event of any such failure of the monitoring equipment including, but not limited to, loss of refrigeration for an auto-sampler or lab refrigerator or loss of flow proportion sampling ability, the permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division except, if the failure occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday) the permittee may wait to make the verbal report until 10:30 am of the next business day after learning of the failure.

**(F)** In addition to the reporting requirements contained in Section 22a-430-3(i), (j), and (k) of the Regulations of Connecticut State Agencies, the permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division, Municipal Facilities Section (860) 424-3704 concerning the failure of any major component of the treatment facilities which the permittee may have reason to believe would result in an effluent violation.

This permit is hereby issued on 12/1/05

Gina McCarthy
Commissioner

# ATTACHMENT 1

## Tables A through F

# TABLE A

| Discharge Serial Number (DSN): **001-1** | Monitoring Location: **1** |
|---|---|
| Wastewater Description: **Sanitary Sewage** | |
| Monitoring Location Description: **Final Effluent** | |
| Allocated Zone of Influence (ZOI): **100 cfs** | In-stream Waste Concentration (IWC): **7.2%** |

| PARAMETER | Units | FLOW/TIME BASED MONITORING | | | | INSTANTANEOUS MONITORING | | | REPORT FORM | Minimum Level Analysis See Section 6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Average Monthly Limit | Maximum Daily Limit | Sample Freq. | Sample type | Instantaneous Limit or Required Range | Sample Freq. | Sample Type | | |
| Alkalinity | mg/l | NA | NA | NR | NA | ------ | Monthly | Grab | MOR | |
| Carbonaceous Biochemical Oxygen Demand (5 day), See Remark (D) Below | mg/l | 25 mg/l and 15% of Influent [1] | 50 | 3/Week | Daily Composite | NA | NR | NA | DMR/MOR | |
| Chlorine, Total Residual (May 1st through September 30th) See Remark (A) Below | mg/l | 0.05[3] | 0.10[3] | 4/ Work Day | Grab | 0.20 | 4/ Work Day | Grab | DMR/MOR | * |
| Copper, Total | mg/l | ----- | ----- | Monthly | Daily Composite | NA | NA | NA | DMR/MOR | * |
| Fecal Coliform (May 1st through September 30th) | per100 ml | NA | NA | NR | NA | see remarks (B) and (C) below | 2/Week | Grab | DMR/MOR | |
| Flow, Average Daily | MGD | 5.0 | ----- | Continuous[2] | Daily flow | NA | NR | NA | DMR/MOR | |
| Nitrogen, Ammonia (total as N) | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Nitrogen, Nitrate (total as N) | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Nitrogen, Nitrite (total as N) | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Nitrogen, Total Kjeldahl | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Nitrogen, Total | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Oxygen, Dissolved | mg/l | NA | NA | NR | NA | ----- | Work Day | Grab | MOR | |
| pH | S.U. | NA | NA | NR | NA | 6 - 9 | Work Day | Grab | DMR/MOR | |
| Phosphate, Ortho | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Phosphorus, Total | mg/l | NA | ------ | Monthly | Daily Composite | NA | NR | NA | NAR | |
| Solids, Settleable | ml/l | NA | NA | NA | NA | ------ | Work Day | Grab | MOR | |
| Solids, Total Suspended, See Remark (D) Below | mg/l | 30 mg/l and 15% of Influent [1] | 50 | 3/Week | Daily Composite | NA | NA | NA | DMR/MOR | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | °F | NA | NA | NR | NA | ------ | Work Day | Grab | MOR | |
| Turbidity | NTU | NA | NA | NA | NA | ------ | Work Day | Grab | MOR | |

**TABLE A – CONDITIONS**

**Footnotes:**

1. The discharge shall meet 25 mg/l and 15 % of the average monthly influent $CBOD_5$ and 30 mg/l and 15% of the average monthly influent total suspended solids (Table D, Monitoring Location G).

2. The permittee shall record and report on the monthly operating report the minimum, maximum and total flow for each day of discharge and the average daily flow for each sampling month. The permittee shall report, on the discharge monitoring report, the average daily flow for each sampling month.

3. The Maximum Daily Concentration to be reported shall be determined by mathematically averaging the results of the four grab samples required above. The Average Monthly Concentration shall be determined by mathematically averaging the results of the Maximum Daily Concentrations required above.

**Remarks:**

**(A)** The use of chlorine for disinfection and sulphur dioxide for dechlorination shall be discontinued from October 1st through April 30th except that chlorination and dechlorination equipment may be started and tested no earlier than April 15th, and any residual chlorine gas or liquid and sulphur dioxide may be used up until, but no later than, October 15th. During these times in April and October the total residual chlorine of the effluent shall not be greater than **0.5** mg/l, as an instantaneous limit, and **0.2** mg/l, as a maximum daily limit. The analytical results shall be reported on the MOR for the months of April and October.

**(B)** The geometric mean of the fecal coliform bacteria values for the effluent samples collected in a period of thirty (30) consecutive days during the period from May 1st through September 30th shall not exceed 200 per 100 milliliters.

**(C)** The geometric mean of the fecal coliform bacteria values for the effluent samples collected in a period of seven (7) consecutive days during the period from May 1st through September 30th shall not exceed 400 per 100 milliliters.

**(D)** The Average Weekly discharge Limitation for $CBOD_5$ and Total Suspended Solids shall be 1.5 times the Average Monthly Limit listed above.

# TABLE B

| Discharge Serial Number (DSN): **001-1** | | | | Monitoring Location: **T** | | |
|---|---|---|---|---|---|---|
| Wastewater Description: **Sanitary Sewage** | | | | | | |
| Monitoring Location Description: **Final effluent after disinfection** | | | | | | |
| Allocated Zone of Influence (ZOI): **100 cfs** | | | In-stream Waste Concentration (IWC): **7.2 %** | | | |
| **PARAMETER** | **Units** | **Maximum Daily Limit** | **Sampling Frequency** | **Sample Type** | **Reporting form** | **Minimum Level Analysis See Section 6** |
| Antimony, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Aquatic Toxicity, *Daphnia pulex* [1] | % | ------ | Quarterly | Daily Composite | ATMR/DMR | |
| Aquatic Toxicity, *Pimephales promelas* [1] | % | ------ | Quarterly | Daily Composite | ATMR/DMR | |
| Arsenic, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Beryllium, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Biochemical Oxygen Demand (5 day) | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Cadmium, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Chromium, Hexavalent | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Chromium, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Chlorine, Total Residual | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Copper, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Cyanide, Amenable | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Cyanide, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Lead, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Mercury, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Nickel, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Nitrogen, Ammonia (total as N) | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Nitrogen, Nitrate, (total as N) | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Nitrogen, Nitrite, (total as N) | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Phenols, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Selenium, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Silver, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Solids, Total Suspended | mg/l | ------ | Quarterly | Daily Composite | ATMR | |
| Thallium, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |
| Zinc, Total | mg/l | ------ | Quarterly | Daily Composite | ATMR | * |

**TABLE B - CONDITIONS**

Remarks:

1. The results of the Toxicity Tests are recorded in % survival, however, the permittee shall report pass/fail on the DMR based on criteria in Section 6(B) of this permit.

# TABLE C

| Discharge Serial Number: **001-1** | Monitoring Location: **G** |
|---|---|
| Wastewater Description: **Sewage** | |
| Monitoring Location Description: **Influent After Preliminary Treatment** | |

| PARAMETER | Units | DMR REPORTING FORMAT | FLOW/TIME BASED MONITORING | | INSTANTANEOUS MONITORING | | REPORTING FORM |
|---|---|---|---|---|---|---|---|
| | | | Sample Frequency | Sample Type | Sample Frequency | Sample Type | |
| Carbonaceous Biochemical Oxygen Demand (5 day) | mg/l | Monthly Average | 3/Week | Daily Composite | NA | NA | DMR/MOR |
| Nitrogen, Ammonia (total as N) | mg/l | ----- | Monthly | Daily Composite | NA | NA | NAR |
| Nitrogen, Nitrate (total as N) | mg/l | ----- | Monthly | Daily Composite | NA | NA | NAR |
| Nitrogen, Nitrite (total as N) | mg/l | ----- | Monthly | Daily Composite | NA | NA | NAR |
| Nitrogen, Total Kjeldahl | mg/l | ----- | Monthly | Daily Composite | NA | NA | NAR |
| Nitrogen, Total | mg/l | ----- | Monthly | Daily Composite | NA | NA | NAR |
| Phosphorus, Total | mg/l | ----- | Monthly | Daily Composite | NA | NA | MOR |
| pH | S.U. | ----- | NA | NA | Work Day | Grab | MOR |
| Solids, Total Suspended | mg/l | Monthly average | 3/Week | Daily Composite | NA | NA | DMR/MOR |

# TABLE D

| Discharge Serial Number: **001-1** | Monitoring Location: **P** |
|---|---|
| Wastewater Description: **Primary Effluent** | |
| Monitoring Location Description: **Primary Effluent** | |

| PARAMETER | Units | REPORTING FORMAT | TIME/FLOW BASED MONITORING | | INSTANTANEOUS MONITORING | | REPORTING FORM |
|---|---|---|---|---|---|---|---|
| | | | Sample Frequency | Sample Type | Sample Frequency | Sample type | |
| Alkalinity, Total | mg/l | ----- | NA | NA | Monthly | Grab | MOR |
| Carbonaceous Biochemical Oxygen Demand (5 day) | mg/l | Monthly Average | Weekly | Composite | NA | NA | MOR |
| Nitrogen, Ammonia (total as N) | mg/l | ----- | Monthly | Composite | NA | NA | NAR |
| Nitrogen, Nitrate (total as N) | mg/l | ----- | Monthly | Composite | NA | NA | NAR |
| Nitrogen, Nitrite (total as N) | mg/l | ----- | Monthly | Composite | NA | NA | NAR |
| Nitrogen, Total Kjeldahl | mg/l | ----- | Monthly | Composite | NA | NA | NAR |
| Nitrogen, Total | mg/l | ----- | Monthly | Composite | NA | NA | NAR |
| Solids, Total Suspended | mg/l | Monthly Average | Weekly | Composite | NA | NA | MOR |

# TABLE E

| Discharge Serial Number: **001-1** | Monitoring Location: **S** | | |
|---|---|---|---|
| Wastewater Description: **Digester Sludge** | | | |
| Monitoring Location Description: **At sludge draw off (Anaerobic Digesters)** | | | |
| **PARAMETER** | **INSTANTANEOUS MONITORING** | | **REPORTING FORM** |
| | **Units** | **Grab Sample Freq.** | |
| Arsenic, Total | mg/kg | Quarterly | DMR |
| Beryllium, Total | mg/kg | Quarterly | DMR |
| Cadmium, Total | mg/kg | Quarterly | DMR |
| Chromium, Total | mg/kg | Quarterly | DMR |
| Copper, Total | mg/kg | Quarterly | DMR |
| Lead, Total | mg/kg | Quarterly | DMR |
| Mercury, Total | mg/kg | Quarterly | DMR |
| Nickel, Total | mg/kg | Quarterly | DMR |
| Polychlorinated Biphenyls | mg/kg | Quarterly | DMR |
| Solids, Fixed | % | Quarterly | DMR |
| Solids, Total | % | Quarterly | DMR |
| Solids, Volatile | % | Quarterly | DMR |
| Zinc, Total | mg/kg | Quarterly | DMR |
| Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised. | | | |

# TABLE F

| Discharge Serial Number: **001-1** | Monitoring Location: **L** | | |
|---|---|---|---|
| Wastewater Description: **Digested sludge** | | | |
| Monitoring Location Description: **Each Anaerobic Digestion Unit** | | | |
| **PARAMETER** | **INSTANTANEOUS MONITORING** | | **REPORTING FORM** |
| | Sample Frequency | Sample Type | |
| Temperature | Weekly | Grab | MOR |
| Alkalinity | Weekly | Grab | MOR |
| Volatile Acids | Weekly | Grab | MOR |
| pH | Weekly | Grab | MOR |

# ATTACHMENT 2

## MONTHLY OPERATING REPORT FORM
## AND
## NUTRIENT ANALYSIS REPORT

PAGE 1 of 2

POQUONOCK W.P.C.F.
MONTHLY OPERATING REPORT (MOR)
NPDES PERMIT I.D. CT0100994

Submit To:
Municipal Wastewater Monitoring Coordinator
Bureau of Water Management
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

**STATEMENT OF ACKNOWLEDGEMENT**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

POQUONOCK WATER POLLUTION CONTROL FACILITY

Chief Operator: _____
Carl N.Veilleux

Date: _____

Telephone: (860) 688-5420

DATE:_____

| DATE | PLANT FLOW (mgd) | | | SEPTIC WASTE | PRIMARY SLUDGE | | | Trickling Filter Recycle | ANAEROBIC DIGESTERS | | | | | | | | Dry Solids Out* | EFFLUENT CHLORINE DOSE | | EFF. CHLORINE RESIDUAL ( mg / L ) | | EFFLUENT FECAL COLIFORM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Primary pH | Second. pH | Primary Alkalinity | Second. Alkalinity | Primary Temp | Second. Temp | Primary Vol. Acids | Second. Vol. Acids | | | | | | |
| | Maximum | Minimum | Total | ( gals ) | Gallons | % Solids | Lbs Dry | (%) | (S.U.) | (S.U.) | (mg/L) | (mg/L) | (deg. F) | (deg. F) | (mg/L) | (mg/L) | ( Lbs) | (Lbs) | (mg/L) | Maximum | Average | ( /100 mL) |
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| MINIMUM | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | GEOMETRIC MEAN | | |

Remarks: * Trucked to Hartford WPCF for processing

MAXIMUM 7 CONSECUTIVE DAYS FECAL COLIFORM GEOMETRIC MEAN

PAGE 2 of 2

POQUONOCK W.P.C.F.
MONTHLY OPERATING REPORT (MOR)
NPDES PERMIT I.D. CT0100994

DATE:_____

Submit To:
Municipal Wastewater Monitoring Coordinator
Bureau of Water Management
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

**STATEMENT OF ACKNOWLEDGEMENT**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

POQUONOCK WATER POLLUTION CONTROL FACILITY

Chief Operator: _____
Carl N.Veilleux

Date: _____

Telephone: (860) 688-5420

| DATE | Settleable Solids (ml / L) | CBOD ( mg / L ) 5 / 7= 0.85 | | | SUSPENDED SOLIDS ( mg / L ) | | | TURBIDITY ( ntu ) | TEMP (deg. F) | pH ( SU ) | | D.O. ( mg / L ) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Effluent | Influent | Pri. Eff. | Effluent | Influent | Pri. Eff. | Effluent | Effluent | Effluent | Influent | Effluent | Effluent | |
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| AVERAGE | | | | | | | | | | | | | |
| MAXIMUM | | | | | | | | | | | | | |
| MINIMUM | | | | | | | | | | | | | |

# Nutrient Analysis Report

for compliance with NPDES permit

**Windsor Poquonock WPCF** Permit # CT0100994 Flow Rate _____ mgd Sampling Date __/__/__

| Parameter | Raw Influent | | Primary Effluent | | Final Effluent | | Plant Efficiency |
|---|---|---|---|---|---|---|---|
| | mg/l | Lbs/day | mg/l | lbs/day | mg/l | lbs/day | % |
| Ammonia | | | | | | | |
| **Nitrite** | | | | | | | |
| **Nitrate** | | | | | | | |
| **TKN** | | | | | | | |
| **Total Nitrogen = TKN + nitrite + nitrate** | | | | | | | |
| Orthophosphates | | | | | | | |
| Total Phosphorus | | | | | | | |

Notes: lbs/day = 8.34 x flow (mgd) x mg/l of pollutant
Flow = Total daily flow on sampling date (mgd)
Plant Efficiency = 100% x (raw influent – final effluent) / raw influent

# DATA TRACKING AND TECHNICAL FACT SHEET

**Permittee:** The Metropolitian District **PAMS Company ID:** 95020

**PERMIT, ADDRESS, AND FACILITY DATA**

**PERMIT #:** CT0100994 **APPLICATION #:** 200403102 **FACILITY ID.** 164-001

| Mailing Address: | Location Address: |
|---|---|
| Street: 555 Main Street, P.O. Box 800 | Street: 1222 Poquonock Avenue |
| City: Hartford ST: CT Zip: 06142-0800 | City: Windsor ST: CT Zip: 06095-1809 |
| Contact Name: Sally Nyren, Manager of EH&S | Contact Name: Carl Veilleux, Poquonock WPC Supervisor |
| Phone No.: (860) 278-7850 ext. 3335 | Phone No.: (860) 688-5420 |

**PERMIT INFORMATION**

**DURATION** 5 YEAR _X_ 10 YEAR __ 30 YEAR ___

**TYPE** New _ Reissuance _X_ Modification __

**CATEGORIZATION** POINT (X) NON-POINT ( ) GIS #

NPDES (X) PRETREAT () GROUND WATER(UIC) ( ) GROUND WATER (OTHER) ( )

NPDES MAJOR(MA) X
NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI) ___
NPDES or PRETREATMENT MINOR (MI) ___

**COMPLIANCE SCHEDULE** YES__ NO_X
POLLUTION PREVENTION __ TREATMENT REQUIREMENT__
WATER QUALITY REQUIREMENT __ OTHER ___

**OWNERSHIP CODE**
Private __ Federal __ State __ Municipal (town only) __ Other public__X

**DEP STAFF ENGINEER:** Stacy Pappano

**PERMIT FEES**

| Discharge Code | DSN Number | Annual Fee |
|---|---|---|
| 111000e | 001-1 | $2,557.50 |

**FOR NPDES DISCHARGES**
Drainage Basin Code: 4300 Present/Future Water Quality Standard: B/B

***NATURE OF BUSINESS GENERATING DISCHARGE***
*Municipal Sanitary Sewage Treatment*

***PROCESS AND TREATMENT DESCRIPTION (by DSN)***

*Secondary Biological Treatment, Seasonal Chlorination and Dechlorination*

***RESOURCES USED TO DRAFT PERMIT***

*_X_ Federal Effluent Limitation Guideline 40CFR 133*
*Secondary Treatment Category*

*_X_ Department File Information*

*_X_ Connecticut Water Quality Standards*

*__ Anti-degradation Policy*

*__ Coastal Management Consistency Review Form*

***BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS***

*_X_ Secondary Treatment*

*_X_ Case-by-Case Determination (See Other Comments)*

*_X_ Section 22a-430-4(r) of the Regulations of Connecticut State Agencies*

*_X_ In order to meet in-stream water quality (See General Comments)*

*__ Anti-degradation policy*

***GENERAL COMMENTS***

*The need for inclusion of water quality based discharge limitations in this permit was evaluated consistent with Connecticut Water Quality Standards and criteria, pursuant to 40 CFR 122.44(d). Each parameter was evaluated for consistency with the available aquatic life criteria (acute and chronic) and human health (fish consumption only) criteria, considering the zone of influence allocated to the facility where appropriate. The statistical procedures outlined in the EPA Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) were employed to calculate the need for such limits. Comparison of monitoring data and its inherent variability with the calculated water quality based limits indicates a low statistical probability of exceeding such limits. Therefore, no water quality based limits were included in the permit at this time.*

***OTHER COMMENTS***

*Previous permit included compliance with the total chlorine residual maximum daily limit of 0.05 mg/l is based on the average of the four separate grab sample results (calculated). The Department has determined that compliance with a technology based limit for dechlorination facilities of 0.05 mg/l as an average monthly limit, 0.100 mg/l as a maximum daily limit, and 0.200 mg/l as a maximum instantaneous limit will be protective of aquatic life uses and consistent with water quality standards in the Farmington River.*

*The initial water quality spreadsheet using data from 2001-2005 indicated a potential need for effluent limitations for total copper. However, these results were due to elevated levels that occurred for a period of time in 2001-2002. An investigation into the cause of these elevated levels was conducted but was not conclusive as to the source or cause. Since September 2002, the concentration of total copper in the discharge has been consistently lower. Based on the most recent years of monitoring data (2002-2005, 21 samples), the Department concluded that no reasonable potential exists to cause or contribute to an exceedence of the water quality criteria for copper in the Farmington River as a result of the discharge, provided these low levels are maintained. Therefore no limit on total copper was included in the permit.*

***WATER QUALITY LIMIT CALCULATIONS***

*See attached*

# Effluent Chemistry: WINDSOR POQUONOCK WPC

as of Monday, August 29, 2005 | Design Flow 5 MGD | Avg. Monthly Flow '03: 2.28 MGD | Max. Monthly Flow '03: 2.7 MGD

**Receiving Waterbody:** Farmington River
**Allocated ZOI:** 100.0 cfs
**Database IWC:** 7.2%

| Date | BOD | TSS | NH3 | NO2 | NO3 | CNT | CNA | BE | AS | CD | CR6 | CR3 | CU | PB | TH | NI | AG | ZN | AN | SE | PHEN | HG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/29/2002 | 14.00 | 7.00 | 3.95 | 0.390 | 18.90 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 22.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 47.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 11/24/2002 | | | 1.25 | 0.110 | 12.60 | < 10.0 | < 10.0 | < 0.5 | < 4.0 | < 0.5 | < 10.0 | < 5.0 | 17.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 40.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 12/10/2002 | 16.00 | 6.00 | 5.70 | 0.470 | 14.40 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 25.0 | 5.0 | < 10.0 | < 5.0 | < 2.0 | 38.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 12/25/2002 | 12.00 | 14.00 | 2.07 | 0.290 | 12.40 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 24.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 26.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 1/30/2003 | 8.00 | 20.00 | 5.92 | 0.580 | 18.20 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 27.0 | 72.0 | < 10.0 | < 5.0 | < 2.0 | 76.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 3/18/2003 | 7.00 | 4.00 | 4.81 | 0.560 | 10.70 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 34.0 | < 5.0 | < 10.0 | 6.0 | < 2.0 | 49.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 4/27/2003 | 8.00 | 3.00 | 0.96 | 0.180 | 10.50 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 44.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 40.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 5/29/2003 | 10.00 | 8.00 | 0.77 | 0.070 | 12.50 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 51.0 | < 5.0 | < 10.0 | 6.0 | < 2.0 | 58.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 6/15/2003 | 9.00 | 17.00 | 0.31 | < 0.050 | 11.40 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 21.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 49.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 7/13/2003 | 17.00 | 16.00 | 0.40 | < 0.050 | 14.60 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 19.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 53.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 8/24/2003 | 69.00 | 51.00 | 10.10 | < 0.050 | < 0.05 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 26.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 56.0 | < 3.0 | < 5.0 | 180.0 | < 0.2 |
| 9/21/2003 | 14.00 | 23.00 | 0.42 | 0.230 | 13.90 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 23.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 55.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 11/30/2003 | 12.00 | 5.00 | 0.46 | 0.130 | 13.40 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 16.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 38.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 12/14/2003 | 22.00 | 20.50 | 2.48 | 0.120 | 11.80 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 17.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 45.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 2/22/2004 | 21.00 | 39.00 | 5.84 | 0.340 | 7.68 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 24.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 51.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 5/18/2004 | 17.00 | 49.00 | 3.69 | 0.160 | 18.60 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 36.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 92.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 6/21/2004 | 12.00 | 26.00 | 1.14 | < 0.050 | 20.40 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 29.0 | < 5.0 | < 10.0 | 6.0 | < 2.0 | 97.0 | < 3.0 | < 5.0 | 240.0 | < 0.2 |
| 7/6/2004 | 14.00 | 29.00 | 2.39 | < 0.050 | 19.60 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 29.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 84.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 9/28/2004 | 22.00 | 92.00 | 5.72 | 0.390 | 13.10 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 49.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 125.0 | < 3.0 | < 5.0 | < 250.0 | < 0.2 |
| 12/5/2004 | 17.00 | 8.00 | 0.68 | 0.090 | 14.60 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | 10.0 | < 5.0 | 17.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 50.0 | < 3.0 | < 5.0 | < 50.0 | < 0.2 |
| 3/13/2005 | 24.00 | 14.00 | 6.34 | 0.230 | 1.15 | < 10.0 | < 10.0 | < 0.5 | < 5.0 | < 0.5 | < 10.0 | < 5.0 | 11.0 | < 5.0 | < 10.0 | < 5.0 | < 2.0 | 63.0 | < 3.0 | < 5.0 | 210.0 | < 0.2 |

| | BOD | TSS | NH3 | NO2 | NO3 | CNT | CNA | BE | AS | CD | CR6 | CR3 | CU | PB | TH | NI | AG | ZN | AN | SE | PHEN | HG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| count | 20 | 20 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| # detected | 20 | 20 | 21 | 16 | 20 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 21 | 2 | 0 | 3 | 0 | 21 | 0 | 0 | 3 | 0 |
| average | 17.25 | 22.58 | 3.11 | 0.219 | 12.88 | 10.0 | 10.0 | 0.5 | 5.0 | 0.5 | 10.0 | 5.0 | 26.7 | 8.2 | 10.0 | 5.1 | 2.0 | 58.7 | 3.0 | 5.0 | 82.4 | 0.2 |
| maximum | 69.00 | 92.00 | 10.10 | 0.580 | 20.40 | 10.0 | 10.0 | 0.5 | 5.0 | 0.5 | 10.0 | 5.0 | 51.0 | 72.0 | 10.0 | 6.0 | 2.0 | 125.0 | 3.0 | 5.0 | 250.0 | 0.2 |
| CV | 0.8 | 1.0 | 0.9 | 0.8 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 1.8 | 0.0 | 0.1 | 0.0 | 0.4 | 0.0 | 0.0 | 0.8 | 0.0 |

# WQB LIMITS: Windsor Poquonock WPCF

| | | | |
|---|---|---|---|
| Discharger: | Windsor Poquonock WPCF | | by: thaze, 8/16/2005, 14:58 |
| Receiving Water: | Farmington River | CURRENT CONDITIONS | |
| Design Flow: | 5.000 MGD | Avg. Flow: | 2.280 MGD |
| Allocated ZOI: | 100.00 CFS | Max. Flow: | 2.700 MGD |
| Samples/Month: | 4 | IWC: | 7.18 % |

## WQB Limits - **Freshwater**

| Compound | C.V. | AML ug/l | MDL ug/l | AML kg/d | MDL kg/d | LIMIT? ML? |
|---|---|---|---|---|---|---|
| Ammonia | 0.9 | 1.49E+04 | 3.59E+04 | 2.82E+02 | 6.79E+02 | |
| Antimony | 0.0 | 2.23E+04 | 2.23E+04 | 4.22E+02 | 4.22E+02 | |
| Arsenic | 0.1 | 2.10E-02 | 2.43E-02 | 3.98E-04 | 4.60E-04 | ML |
| Beryllium | 0.2 | 1.81E+00 | 2.40E+00 | 3.43E-02 | 4.55E-02 | |
| Cadmium | 1.4 | 9.93E+00 | 2.81E+01 | 1.88E-01 | 5.33E-01 | |
| Chlorine | 0.6 | 1.25E+02 | 2.52E+02 | 2.38E+00 | 4.77E+00 | |
| Chromium (hex) | 0.0 | 1.53E+02 | 1.53E+02 | 2.90E+00 | 2.90E+00 | |
| Chromium (tri) | 0.2 | 5.49E+02 | 7.24E+02 | 1.04E+01 | 1.37E+01 | |
| Copper | 0.4 | 6.68E+01 | 1.12E+02 | 1.27E+00 | 2.12E+00 | |
| Cyanide (amen) | 0.2 | 6.77E+01 | 8.97E+01 | 1.28E+00 | 1.70E+00 | |
| Lead | 1.7 | 1.01E+01 | 3.01E+01 | 1.92E-01 | 5.70E-01 | ML |
| Mercury | 0.0 | 7.10E-01 | 7.10E-01 | 1.35E-02 | 1.35E-02 | ML |
| Nickel | 0.1 | 3.89E+02 | 4.50E+02 | 7.37E+00 | 8.53E+00 | |
| Phenol | 0.9 | 2.66E+04 | 6.42E+04 | 5.04E+02 | 1.22E+03 | |
| Selenium | 0.2 | 6.51E+01 | 8.62E+01 | 1.23E+00 | 1.63E+00 | |
| Silver | 1.3 | 5.13E+00 | 1.42E+01 | 9.71E-02 | 2.69E-01 | |
| Thallium | 0.0 | 8.77E+01 | 8.77E+01 | 1.66E+00 | 1.66E+00 | |
| Zinc | 0.4 | 5.40E+02 | 9.05E+02 | 1.02E+01 | 1.71E+01 | |

## Current Conditions

| Compound | # DETECTS | AMC ug/l | MMC ug/l | AMM kg/d | MMM kg/d |
|---|---|---|---|---|---|
| Ammonia | 28 | 2.96E+00 | 1.01E+01 | | |
| Antimony | 1 | 3.00E+00 | 3.00E+00 | 2.69E-02 | 3.07E-02 |
| Arsenic | 0 | 4.90E+00 | 5.00E+00 | 4.23E-02 | 5.11E-02 |
| Beryllium | 0 | 5.00E-01 | 1.00E+00 | 4.32E-03 | 1.02E-02 |
| Cadmium | 0 | 8.00E-01 | 5.00E+00 | 6.91E-03 | 5.11E-02 |
| Chlorine | | | | 0.00E+00 | 0.00E+00 |
| Chromium (hex) | 0 | 1.00E+01 | 1.00E+01 | 8.64E-02 | 1.02E-01 |
| Chromium (tri) | 0 | 4.80E+00 | 5.00E+00 | 4.15E-02 | 5.11E-02 |
| Copper | 20 | 2.70E+01 | 5.10E+01 | 2.33E-01 | 5.22E-01 |
| Cyanide (amen) | 0 | 1.10E+01 | 2.00E+01 | 9.50E-02 | 2.04E-01 |
| Lead | 2 | 7.30E+00 | 7.20E+01 | 6.30E-02 | 7.36E-01 |
| Mercury | 0 | 3.00E-01 | 2.00E+00 | 2.59E-03 | 2.05E-02 |
| Nickel | 4 | 5.10E+00 | 6.00E+00 | 4.40E-02 | 6.14E-02 |
| Phenol | 3 | 8.03E+01 | 3.10E+02 | 6.94E-01 | 3.17E+00 |
| Selenium | 0 | 5.30E+00 | 1.00E+01 | 4.58E-02 | 1.02E-01 |
| Silver | 0 | 2.00E+00 | 2.00E+00 | 1.73E-02 | 2.05E-02 |
| Thallium | 0 | 1.00E+01 | 1.00E+01 | 8.64E-02 | 1.02E-01 |
| Zinc | 29 | 5.62E+01 | 1.25E+02 | 4.85E-01 | 1.28E+00 |

## FINAL PERMIT CONDITIONS

### Final WQB Limits

| | AML (kg/d) | MDL (kg/d) |
|---|---|---|

### Interim WQB Limits

| | AML (kg/d) | MDL (kg/d) |
|---|---|---|

### Minimum Levels

| | |
|---|---|
| Mercury | 0.0002 mg/L |
| Lead | 0.005 mg/L |
| Arsenic | 0.005 mg/L |