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NPDES PERMIT

Issued to

Permittee:

City of Danbury 155 Deer Hill Road Danbury, Connecticut 06810

Permit ID: CT0100145

Location Address:

City of Danbury WPCF Newtown Road

Danbury, Connecticut 06810

Design Flow Rate: 15.5 MGD prior to completion of facility upgrade

12.0 MGD upon completion of facility upgrade

Receiving Stream: Limekiln Brook Effective Date: Permit Expires: D R A F T

ECTION 1: GENERAL PROVISIONS

- (A) This permit is issued 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 City of Danbury, ("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) 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
- (1) 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.
- (I) 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 October 1, 2009, the annual fee is \$ 3005.00.

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" and "No Observable Acute Effect Level (NOAEL)" 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, and/or the ATMR.
 - "Annual" in the context of any sampling frequency, shall mean the sample must be collected in the month of July except in the case of Chronic Toxicity when the samples must be collected in the months of July, August or September.
 - "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.
 - "Bi-Monthly" in the context of any sampling frequency, shall mean once every two months including the months of January, March, May, July, September, and November.
 - "Bi-Weekly" in the context of any sampling frequency, shall mean once every two weeks.
 - "Completion of the facility upgrade" means when the engineer provides certificates of substantial completion of the tertiary treatment process.
 - "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.
- "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.
- "MGD" means million gallons per day.
- "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.
- "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 January, April, July, and October.
- "Range During Sampling" or "(RDS)" as a sample type means the maximum and minimum of all values recorded as a result of analyzing each grab sample of; 1) a Composite Sample, or, 2) a Grab Sample Average. For those Permittee with pH meters that provide continuous monitoring and recording, Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.
- "Range During Month" or "(RDM)" as a sample type means the lowest and the highest values of all of the monitoring data for the reporting month.
- "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 any sampling frequency, shall mean the sample must be collected in the months of January and July.
- "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 holidays.

"Zone of Influence" means the spatial area or volume of receiving water flow within which some degradation of water quality or use impairment is anticipated to occur as a result of a discharge.

SECTION 3: COMMISSIONER'S DECISION

- (A) The Commissioner of Energy and Environmental Protection ("Commissioner") has issued a final decision and found modification of the existing system or installation of a new system would protect the waters of the state from pollution. The Commissioner's decision is based on application #201905783 for permit reissuance received on May 2, 2019 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, the above referenced application, and all approvals issued by the Commissioner or his authorized agent for the discharges and/or activities authorized by, or associated with, 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 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 shall be allowed by the Permittee until the Permittee has notified in writing the Connecticut Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, Municipal Wastewater Section, 79 Elm Street, Hartford, CT 06106-5127 of said new discharge.
- (C) The Permittee shall maintain a system of user charges based on actual use 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 most current Model Sewer Ordinance for Connecticut Municipalities prepared by the Department of Energy and Environmental Protection. The Commissioner of Energy and Environmental Protection alone may authorize certain discharges which may not conform to the Model Sewer Ordinance.
- (E) Outside of the Zone of Influence assigned to this discharge, this discharge shall not cause or contain:
 - (1) sludge deposits, solid refuse, floating solids, oils and grease, or scum except as may result from a discharge from a wastewater treatment facility providing appropriate treatment and none exceeding levels necessary to protect and maintain all designated uses;
 - (2) color resulting in obvious discoloration of the surface water;
 - (3) suspended and settleable solids in concentrations or combinations which would impair the designated uses; be aesthetically objectionable; significantly alter the physical or chemical composition of bottom sediments; and/or adversely impact organisms living in or on the bottom sediment;
 - (4) silt or sand deposits other than of natural origin;
 - (5) turbidity other than that of natural origin except as may result discharge from a wastewater treatment facility providing appropriate treatment, provided all reasonable controls are used to control turbidity and none exceeding levels necessary to protect and maintain all designated uses; or
 - (6) odor that would impair the designated uses specifically assigned to this Classification pursuant to the Connecticut Water Quality Standards Regulations (RCSA §§ 22a-426-1—22a-426-9).

- (F) No discharge from the permitted facility shall cause acute or chronic toxicity in the receiving water outside of any Zone of Influence specifically allocated to that 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 BOD5 and Total Suspended Solids for all daily composite samples taken in any calendar month.
- (I) Any new or increased amount of sanitary sewage discharge to the sewer system is prohibited where it will cause a dry weather overflow or exacerbate an existing 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 Permittee' sludge use or disposal practice. A change in the Permittee' 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) This permit becomes effective on the 1st day of the month following the date of signature of the Commissioner or designee.
- (L) When the arithmetic mean of the average daily flow from the POTW for the previous 180 days exceeds 90% of the design flow rate, the Permittee shall develop and submit within one (1) year, for the review and approval of the Commissioner, 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 BOD5 or TSS loading into the POTW for the previous 180 days exceeds 90% of the design load rate, the Permittee shall develop and submit for the review and approval of the Commissioner within one (1) year, 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 31st of each calendar year the main flow meter shall be calibrated by an independent contractor 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. This includes but is not limited to all preliminary treatment processes, primary treatment processes, recycle pumping processes, anaerobic treatment processes, anoxic treatment processes, aerobic treatment processes, flocculation processes, effluent filtration processes or any other processes necessary for the optimal removal of pollutants. The Permittee shall not bypass or fail to operate any of the aforementioned processes without the written approval of the Commissioner.
- (P) On or before 2.5 years from effective date 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 Permitee is hereby authorized to accept fats, oil and grease (FOG) at the treatment facility.
- (S) 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 permitted Zone of Influence.

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 H incorporated in this permit as Attachment 1.
- (B) The Permittee shall provide monitoring data of the performance of the treatment process in accordance with the Monthly Operating Report (MOR) 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, C and E. 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.

<u>Parameter</u>	Minimum Level
Aluminum	0.050 mg/l
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
Iron, Total	0.040 mg/l
Lead, Total	0.005 mg/l
Mercury, Total	0.0002 mg/l
Nickel, Total	0.005 mg/l
Phosphorus, Total	0.05 mg/l
Selenium, Total	0.005 mg/l
Silver, Total	0.002 mg/l .
Thallium, Total	0.005 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°C until Acute Aquatic Toxicity testing is initiated.
 - (b) Effluent samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for Acute Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility. Facilities with effluent dechlorination and/or filtration designed as part of the treatment process are not required to obtain approval from the Commissioner.
 - (c) Samples shall be taken after dechlorination for Acute Aquatic Toxicity unless otherwise approved in writing by the Commissioner for monitoring at this facility.
 - (d) Chemical analyses of the parameters identified in Attachment 1, Table C 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.
 - (e) 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 limit 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 limit on Acute Aquatic Toxicity (vertebrate) shall be conducted for 48 hours utilizing larval (1 to 14-day 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 Aquatic 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 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 CaCO₃ shall be used as dilution water in the tests.
 - (d) Copper nitrate shall be used as the reference toxicant.
- (5) For limits expressed as NOAEL = 100%, compliance shall be demonstrated when the results of a valid pass/fail Acute Aquatic Toxicity Test indicate 90% or greater survival in the effluent sample at the CTC (100%).
- (C) Chronic Aquatic Toxicity Test for Freshwater Discharges
 - (1) Chronic Aquatic Toxicity testing of the discharge shall be conducted annually during July, August, or September of each year.
 - (2) Chronic Aquatic Toxicity testing shall be performed on the discharge in accordance with the test methodology established in "Short-Term Methods for Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms" (EPA-821-R-02-013) as referenced in 40 CFR 136 for *Ceriodaphnia* survival and reproduction and Fathead minnow larval survival and growth.
 - (a) Chronic Aquatic Toxicity tests shall utilize a minimum of five effluent dilutions prepared using a dilution factor of 0.5 (100%

- effluent, 50% effluent, 25% effluent, 12.5% effluent, 6.25% effluent).
- (b) Limekiln Brook water collected immediately upstream of the area influenced by the discharge shall be used as control (0% effluent) and dilution water in the toxicity tests.
- (c) A laboratory water control consisting of synthetic freshwater prepared in accordance with EPA-821-R-02-013 at a hardness of 50±5 mg/l shall be used as an additional control (0% effluent) in the toxicity tests.
- (d) Daily composite samples of the discharge (final effluent following disinfection) and grab samples of the Limekiln Brook, for use as site water control and dilution water, shall be collected on day 0 for test solution renewal on day 1 and day 2 of the test; day 2, for test solution renewal on day 3 and day 4 of the test; and day 4, for test solution renewal for the remainder of the test. Samples shall not be pH or hardness adjusted, or chemically altered in any way.
- (3) All samples of the discharge and Limekiln Brook water used in the Chronic Aquatic Toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 6(A) of this permit for the parameters listed in Attachment 1, Table C included herein, excluding Acute Aquatic Toxicity organism testing.
 - (a) As part of each toxicity test's daily renewal procedure **dissolved organic carbon**, **pH** and **hardness** must be measured in the effluent and receiving waters at the beginning and end of each 24-hour period in each test treatment and the control(s).

SECTION 7: RECORDING AND REPORTING REQUIREMENTS

- (A) The Permittee and/or the Signatory Authority shall continue to report the results of chemical analyses and any aquatic toxicity test required above in Sections 5 and 6, and the referenced Attachment 1 by electronic submission of DMRs under this permit to the Department using NetDMR in satisfaction of the DMR submission requirement of this permit. The report shall include a detailed explanation of any violations of the limitations specified. DMRs shall be submitted electronically to the Department no later than the 15th day of the month following the month in which samples are collected.
 - (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, LC₅₀ 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 Protection and Land Reuse at the address specified below by the 15th day of the month following the month in which samples are collected:

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

- (C) The results of the process monitoring required above in Section 5 shall be entered on the Monthly Operating Report (MOR) form, included herein as Attachment 2, and reported to the Bureau of Water Protection and Land Reuse. The MOR report shall also be accompanied by a detailed explanation of any violations of the limitations specified. The MOR must be received at the address specified above in Section 7 (B) of this permit by the 15th day of the month following the month in which the data and samples are collected.
- (D) A complete and thorough report of the results of the chronic toxicity monitoring outlined in Section 6(C) shall be prepared as outlined in Section 10 of EPA-821-R-02-013 and submitted to the Department for review on or before December 31 of each calendar year to the address specified above in Section 7 (B) of this permit.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS, BYPASSES, MECHANICAL FAILURES, AND MONITORING EQUIPMENT FAILURES

(A) If any Acute Aquatic Toxicity sample analysis indicates that an Aquatic toxicity effluent limitation has been exceeded or that the test was invalid, an additional 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 Protection and Land Reuse (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 Acute Aquatic Toxicity test results or any three Acute Aquatic Toxicity test results in a twelve month period indicates that the Acute Aquatic Toxicity limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report, to the Bureau of Water Protection and Land Reuse (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) Sewage Right-to-Know Bypass Reporting
 - (1) 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 sewage collection system planned during required maintenance. The Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, Municipal Wastewater, the Department of Public Health, Water Supply Section and Recreation Section, and the local Director of Health shall be notified within 2 hours of the Permittee learning of the event via online reporting in a format approved by the Commissioner. A final incident report shall be submitted to the Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, Municipal Wastewater within five days of the Permittee learning of each occurrence of a discharge or bypass of untreated or partially treated sewage via online reporting in a format approved by the Commissioner.

If the online reporting system is nonfunctional for either bypass reporting requirement noted above, then the Permittee shall notify DEEP via telephone during normal business hours (8:30 a.m. to 4:30 p.m. Monday through Friday) at (860) 424-3704 or after hours to the DEEP Emergency Response Unit at (860) 424-3338 and the Department of Public Health at (860) 509-8000 with the final incident report being submitted online.

- (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 the Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, Municipal Wastewater Section of such noncompliance in the same manner as in paragraph C (1) of this Section. If the online reporting system is nonfunctional and 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 no later than 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 autosampler or lab refrigerator or loss of flow proportion sampling ability, the Permittee shall notify the Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, Municipal Wastewater Section of such failure(s) in the same manner as in paragraph C (1) of this Section. If the online reporting system is nonfunctional and 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 no later than 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 RCSA, the Permittee shall notify in the same manner as in paragraph C (1) of this Section, the Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, Municipal Wastewater 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.

SECTION 9: SEWERAGE SYSTEM O&M

- (A) No later than February 15th of the year following the issuance of this permit the Permittee shall submit to the Commissioner an updated Sewer Service Area (SSA) Map. The SSA shall at a minimum clearly identify and delineate the following information as applicable:
 - (1) Areas currently connected to sanitary sewers,
 - (2) Areas considered for future sanitary sewer service, and,
 - (3) Areas where sanitary sewer service will not be provided.
- (B) No later than February 15th, annually, the Permittee shall submit to the Commissioner an updated listing of all wastewater treatment plant and collection system improvements and all sewer extensions performed during the most recent calendar year. At a minimum the following information must be included, as applicable, in the submission:
 - (1) The street name or nearest identifiable location to where the project was performed,
 - (2) the total linear feet of pipe replaced or repaired,
 - (3) the number of manholes repaired or replaced,
 - (4) a description of work performed at pump stations,

- (5) a description of work performed at the treatment plant, and
- (6) a project listing with proposed collection system and plant improvements for the following calendar year.

SECTION 10: COMPLIANCE SCHEDULES

- (A) The Permittee is authorized to construct the "WPCP Tertiary Treatment System Upgrade" (Upgrade), for the advanced treatment of municipal wastewater for the removal of phosphorous, in accordance with the plans and specifications prepared by Wright-Pierce, filed with the Department on July 22, 2020, and approved by the Department on March 23, 2021 (See Attachment 3 of this permit).
- (B) On or before April 1, 2022, the Permittee shall comply with the **Total Phosphorus** (b) and **Total Phosphorus** (c) specified in Table A of this permit.
- (C) The Permittee shall perform the actions specified by this Section in accordance with the schedule(s) in Sections 10.(A) and (B) above. Within fifteen days after completing such actions, the Permittee shall certify to the Commissioner in writing that the actions have been completed as approved.
- (D) Notification of noncompliance. In the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this Section of the permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates which may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.
- (E) Notice to Commissioner of changes. Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this Section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.
- (F) <u>Submission of documents</u>. Any document, other than a DMR, ATMR or MOR required to be submitted to the Commissioner under this Section of the permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

Stela Marusin, P.E.
Department of Energy and Environmental Protection
Bureau of Water Protection and Land Reuse
Water Planning and Management Division
Municipal Wastewater Section
79 Elm Street
Hartford, Connecticut 06106-5127

This permit is hereby issued on	
	Graham J. Stevens
	Bureau Chief
	Bureau of Water Protection and Land Reuse

ATTACHMENT 1

Tables A through H

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): 3.15 cfs

In-stream Waste Concentration (IWC): Prior to completion of facility upgrade = 88.4% Upon completion of facility upgrade = 85.5%

DA DA METED		FLOW/TIME BASED MONITORING			INSTANTANEOUS MONITORING			REPORT FORM	Minimum Level	
PARAMETER	Units	Average Monthly Limit	Maximum Daily Limit	Sample Freq.	Sample type	Instantaneous Limit or Required Range ³	Sample Freq.	Sample Type		Analysis See Section 6
Alkalinity	mg/l	NA	NA	NR	NA		Monthly	Grab	MOR	
Aluminum	mg/l			Weekly	Daily Composite	NA	NA	NA	MOR	*
Biochemical Oxygen Demand (5 day) ¹ , See remark (C) October through June July through September	mg/l	30 20	50 30	3/Week	Daily Composite	NA	NR	NA	DMR/MOR	
Carbonaceous BOD 9	mg/l			Monthly	Daily Composite	NA	NR	NA	DMR/MOR	
Chlorine, Total Residual, see remark (A) May 1 st through September 30 th .	mg/l	0.014	0.024	4/ Work Day	Grab	≤0.04	4/ Work Day	Grab	DMR/MOR	*
Copper, Total	mg/l	0.019	0.029	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	*
Lead, Total	kg/d	0.052	0.105	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	*
Lead, Total	mg/l			Weekly	Daily Composite	NA	NA	NA	DMR/MOR	*
Escherichia coli, see Remark (B) May 1 st through Sept 30 th	Colonies per100 ml	NA	NA	NR	NA	410	3/Week	Grab	DMR/MOR	
Flow	MGD			Continuous ²	Average Daily	NA	NR	NA	DMR/MOR	
Nitrogen, Ammonia (total as N) January - April		4.0								
May June	mg/l	1.9 1.7		3/week	Daily Composite	NA	NR	NA	DMR/MOR	
July-September		1.5								
October		1.9								
November-December	mg/l	4.0		3/week	Daily Composite	NA	NR	NA	DMR/MOR	

Nitrogen, Nitrate (total as N)	mg/l	NA		Monthly	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Nitrite (total as N)	mg/l	NA		Monthly	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Total Kjeldahl	mg/l	NA		Monthly	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Total	mg/l	NA		Monthly	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Total	lbs/day	NA		Monthly	Daily Composite	NA	NR	NA	MOR	
Oxygen, Dissolved	mg/l	NA	NA	NR	NA	≥6.0	Work Day	Grab	DMR/MOR	
pН	S.U.	NA	NA	NR	NA	6 - 9	Work Day	Grab	DMR/MOR	
Phosphate, Ortho April 1st through October 31st November 1st through March 31st	mg/l	NA		Weekly Monthly	Daily Composite	NA	NR	NA	MOR	
Phosphorus (a), Total ^{5,6} See Remark (D) April 1 st through October 31 st November 1 st through March 31 st	mg/l	NA	NA	2/Week Monthly	Daily Composite	NA	NR	NA	DMR/MOR MOR	*
Phosphorus (b), Total April 1st through October 31st November 1st through March 31 st	mg/l	0.14 NA	0.31	2/Week Monthly	Daily Composite	NA	NR	NA	DMR/MOR MOR	*
Phosphorus Total, April 1st through October 31st November 1st through March 31st	lbs/day	NA		2/Week Monthly	Daily Composite	NA	NA	NA	MOR	*
Phosphorus (c), Total (Average Seasonal Load Cap) ⁸ October	lbs/day	7.55	NA	2/Week	Calculated	NA	NA	NA	DMR/MOR	
Solids, Settleable	ml/l	NA	NA	NR	NA		Work Day	Grab	MOR	
Solids, Total Suspended ¹ , See remark (C)	mg/l	30	50	3/Week	Daily Composite	NA	NA	NA	DMR/MOR	
Temperature	°F	NA	NA	NR	NA		Work Day	Grab	MOR	
Turbidity	NTU	NA	NA	NR	NA		Work Day	Grab	MOR	
Zinc, Total	mg/l	0.053	0.080	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	*

TABLE A - CONDITIONS

Footnotes:

¹The discharge shall not exceed an Average Monthly Limit of 30 mg/l (October 1 through June 30) and 20 mg/l (July 1 through September 30) or a Maximum Daily Limit of 50 mg/l (October 1 through June 30) and 30 mg/l (July 1 through September 30).

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 and maximum daily flow for each sampling month.

TABLE A (CONTINUED)

- ³ The instantaneous limits in this column are maximum limits except for Dissolved Oxygen which is a minimum limit.
- ⁴ 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 Concentration required above.
- ⁵ From the period beginning on the effective date of this permit to the day of the implementation of additional phosphorus removal facilities, from April 1st through and including October 31st of each year, in no two consecutive months shall the average monthly discharge of the discharge exceed 0.6 mg/l of Phosphorus, Total.
- ⁶ From the period beginning on the effective date of this permit to the day of the implementation of additional phosphorus removal facilities, from April 1st through and including October 31st of each year ("the Season"), the seasonal average shall not exceed 0.6 mg/l. The seasonal average discharge shall be calculated by determining the average monthly discharge of total phosphorous for each month of the Season by dividing by 7 the sum of the average monthly discharges.
- ⁷ From the day of the implementation of the additional phosphorus removal facilities but no later than April 1, 2022, the discharge shall not exceed the Phosphorus (b) limits listed above.
- ⁸ From the day of the implementation of Phosphorus limits (c) listed above but no later than April 1, 2022, lasting until expiration, the discharge shall not exceed the Seasonal Average Load Cap listed herein. Compliance with the Average Seasonal Load Cap of 7.75 lbs/day is determined as follows: Calculate the Average Seasonal Load by adding all sample results during each April 1st through October 31st season in pounds per day and dividing by the total number of those samples in that season.
- ⁹ CBOD shall be tested from the same effluent sample collected for the BOD₅ test.

Remarks

- (A) The use of sodium hypochlorite for disinfection and sodium bisulfite 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 0.04 mg/l, as an instantaneous limit, and 0.02 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 Escherichia coli bacteria values for the effluent samples collected in a period of a calendar month during the period from May 1st through September 30th shall not exceed 126 per 100 milliliters.
- (C) The Average Weekly discharge Limitation for BOD₅ and Total Suspended Solids shall be 1.5 times the Average Monthly Limit listed above.
- (D) The limits for Total Phosphorous (a), in Footnotes 5 and 6 are separate and independent requirements; each is separately enforceable.

DMR - Discharge Monitoring Report

TABLE B

Monitoring Location: K

Monitoring Location Description: Final Effluent		V . W . C	The state of the s		
Allocated Zone of Influence (ZOI): 3.15 cfs			Concentration (IWC) Ipon completion of fac		
DAD AMETED		FLOW/TIM	IE BASED MONIT	CORING	REPORT FORM
PARAMETER	Units	Average	Sample	Sample	
	Omts	Monthly Minimum	Freq.	type	
Biochemical Oxygen Demand (5 day) Percent Removal ¹	% of Influent	85	3/Week	Calculated ²	DMR
Solids, Total Suspended Percent Removal ¹	% of Influent	85	3/Week	Calculated ²	DMR

TABLE B – CONDITIONS

Footnotes:

Discharge Serial Number (DSN): 001-1

Wastewater Description: Sanitary Sewage

 $^{^{1}}$ The discharge shall be less than or equal to 15% of the average monthly influent BOD₅ and total suspended solids (Table E, Monitoring Location G).

² Calculated based on the average monthly results described in Table A. Removal efficiency = $\frac{Inf.BOD \text{ or TSS} - Effluent BOD \text{ or TSS}}{Inf.BOD \text{ or TSS}} \times 100$

TABLE C

Discharge Serial Number (DSN): 001-1 Monitoring Location: T Wastewater Description: Sanitary Sewage Monitoring Location Description: Final Effluent after chlorination (IWC): Prior to completion of facility upgrade = 88.4%. Upon completion Allocated Zone of Influence (ZOI): 3.15 cfs of facility upgrade = 85.5% Units Maximum Sampling Sample Reporting Minimum PARAMETER Frequency form Daily Level Analysis Type Limit See Section 6 ATMR/DMR Daily Composite Aluminum, Total mg/l Quarterly ATMR/DMR Antimony, Total Daily Composite mg/l -----Quarterly ATMR/DMR Daily Composite NOAEL Static 48Hr Acute D. Pulex¹ ≥90% Quarterly survival ATMR/DMR % Quarterly Daily Composite NOAEL Static 48Hr Acute Pimephales¹ ≥90% survival Arsenic, Total Daily Composite ATMR/DMR * Quarterly mg/l ATMR/DMR Beryllium, Total Quarterly Daily Composite mg/l-----ATMR/DMR BOD₅ -----Quarterly Daily Composite mg/l ATMR/DMR Cadmium, Total Daily Composite * mg/lQuarterly -----ATMR/DMR Chromium, Hexavalent Quarterly Daily Composite * mg/l ATMR/DMR Chromium, Total Daily Composite * mg/l Quarterly ATMR/DMR ж Chlorine, Total Residual mg/l -----Quarterly Daily Composite ATMR/DMR * Copper, Total mg/l Quarterly Daily Composite ATMR/DMR Cyanide, Amenable mg/l ----Quarterly Daily Composite Daily Composite ATMR/DMR Cyanide, Total mg/l Quarterly ATMR/DMR Iron, Total mg/l -----Quarterly Daily Composite ATMR/DMR * Lead, Total mg/l Quarterly Daily Composite -----ATMR/DMR Mercury, Total Daily Composite mg/lQuarterly ATMR/DMR Nickel, Total Quarterly Daily Composite * mg/l -----ATMR/DMR Nitrogen, Ammonia (total as N) Quarterly Daily Composite mg/l-----ATMR/DMR Nitrogen, Nitrate, (total as N) mg/l -----Quarterly Daily Composite ATMR/DMR Nitrogen, Nitrite, (total as N) Daily Composite mg/l Quarterly ATMR/DMR Phenols, Total mg/l -----Quarterly Daily Composite ATMR/DMR Phosphorus, Total Daily Composite mg/l Quarterly ATMR/DMR Selenium, Total mg/l -----Quarterly Daily Composite ATMR/DMR Silver, Total Daily Composite mg/l Quarterly ATMR/DMR Suspended Solids, Total mg/l -----Quarterly Daily Composite ATMR/DMR Thallium, Total Quarterly Daily Composite mg/l ATMR/DMR Zinc, Total Quarterly Daily Composite mg/lFOR CHRONIC TESTING ONLY Annual Report Carbon, Dissolved Organic mg/l Annually Daily Composite -----S.U. pН Annually Daily Composite Annual Report Hardness mg/l -----Annually Daily Composite Annual Report TABLE C - CONDITIONS Remarks: The results of the Toxicity Tests are recorded in % survival. The Permittee shall report % survival on the DMR based on criteria in Section 6(B) of this permit.

TABLE D

Discharge Serial Number: 001-1 Monitoring Loc			ocation: N			
Wastewater Description: Activated Sludge						
Monitoring Location Description: Each Aeration Unit						
REPORTING FOR			INSTANTANEO	REPORTING		
PARAMETER			Sample Frequency	Sample Type	FORM	
Oxygen, Dissolved	High & low for ea	ch Work Day	4/Work Day	Grab	MOR	
Sludge Volume Index	Work D	ay	Work Day	Grab	MOR	
Mixed Liquor Suspended Solids	Work D	ay	Work Day	Grab	MOR	

TABLE E

Discharge Serial Number: 001-1				Monitoring Location: G				
Wastewater Description: Sanitary Sewa	ge							
Monitoring Location Description: Influe	ent							
PARAMETER	Units	DMR REPORTING		TME BASED ITORING	INSTANTA MONITO		REPORTING FORM	
	Cinus	FORMAT	Sample Frequency	Sample Type	Sample Frequency	Sample Type		
Biochemical Oxygen Demand (5 day)	mg/l	Monthly average	3/Week	Daily Composite	NA	NA	DMR/MOR	
Copper, Total	mg/l	Monthly average and maximum day	Weekly	Daily Composite	NA	NA	DMR/MOR	
Lead, Total	kg/d	Monthly average and maximum day	Weekly	Daily Composite	NA	NA	DMR/MOR	
Nitrogen, Ammonia (total as N)	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR	

Weekly

Daily Composite

NA

NA

DMR/MOR

Monthly average and

maximum day

mg/l

Zinc, Total

TABLE F

Discharge Serial Number: 001-1 Monitoring Location: P Wastewater Description: Primary Effluent Monitoring Location Description: Primary Sedimentation Basin Effluent TIME/FLOW BASED REPORTING REPORTING INSTANTANEOUS MONITORING FORMAT MONITORING **FORM PARAMETER** Units Sample Sample Sample Sample type Frequency Type Frequency Alkalinity, Total mg/l NA NA NA Monthly Grab MOR Biochemical Oxygen Demand (5 day) mg/l Monthly average Weekly Composite NA NA MOR MOR Nitrogen, Ammonia (total as N) mg/l Monthly Composite NA NA NA NA NA MOR Nitrogen, Nitrate (total as N) mg/l Monthly Composite NA MOR Nitrogen, Nitrite (total as N) mg/l Monthly Composite NA NA MOR NA Nitrogen, Total Kjeldahl NA mg/lMonthly Composite NA NA MOR Nitrogen, Total mg/l Monthly Composite NA NA NA MOR Phosphate, Ortho mg/lMonthly Composite NA NA

Monthly

NA

Weekly

Composite

NA

Composite

NA

Monthly

NA

NA

Grab

NA

MOR

MOR

MOR

NA

NA

Monthly average

mg/l

S.U.

mg/l

Phosphorus, Total

Solids, Total Suspended

TABLE G

Discharge Serial Number: 001-1 Monitoring Location: SL

Wastewater Description: Dewatered Sludge

Monitoring Location Description: At dewatered sludge draw off

PARAMETER	PARAMETER INSTANTANEOUS MONITORING			
	Units	Grab Sample Freq.		
Arsenic, Total	mg/kg	Bi-monthly	DMR	
Beryllium, Total	mg/kg	Bi-monthly	DMR	
Cadmium, Total	mg/kg	Bi-monthly	DMR	
Chromium, Total	mg/kg	Bi-monthly	DMR	
Copper, Total	mg/kg	Bi-monthly	DMR	
Lead, Total	mg/kg	Bi-monthly	DMR	
Mercury, Total	mg/kg	Bi-monthly	DMR	
Nickel, Total	mg/kg	Bi-monthly	DMR	
Nitrogen, Ammonia *	mg/kg	Bi-monthly	DMR*	
Nitrogen, Nitrate (total as N) *	mg/kg	Bi-monthly	DMR*	
Nitrogen, Organic *	mg/kg	Bi-monthly	DMR*	
Nitrogen, Nitrite (total as N) *	mg/kg	Bi-monthly	DMR*	
Nitrogen, Total *	mg/kg	Bi-monthly	DMR*	
pH *	S.U.	Bi-monthly	DMR*	
Polychlorinated Biphenyls	mg/kg	Bi-monthly	DMR	
Solids, Fixed	%	Bi-monthly	DMR	
Solids, Total	%	Bi-monthly	DMR	
Solids, Volatile	%	Bi-monthly	DMR	
Zinc, Total	mg/kg	Bi-monthly	DMR	

(*) required for composting or land application only

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 H

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

ATTACHMENT 2

MONTHLY OPERATING REPORT FORM

ATTACHMENT 3

AMENDED APPROVAL OF PLANS AND SPECIFICATIONS (Tertiary Treatment System)



79 Elm Street • Hartford, CT 06106-5127

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Affirmative Action/Equal Opportunity Employer

AMENDED APPROVAL OF PLANS AND SPECIFICATIONS

March 23, 2021

Mr. David Day Superintendent of Public Utilities City of Danbury 155 Deer Hill Avenue Danbury, CT 06810

RE: WPCP Tertiary Treatment System Upgrade Danbury, Connecticut

Dear Mr. Day:

The City of Danbury (City) is hereby authorized to construct the "WPCP Tertiary Treatment System Upgrade" (Upgrade) in accordance with the plans and specifications prepared by Wright-Pierce and filed with the Department of Energy and Environmental Protection (Department) on July 22, 2020. The Upgrade is to be constructed for the advanced treatment of municipal wastewater for the removal of Phosphorous to comply with final Phosphorus limits on or before April 1, 2022, as specified in Permit No. CT0100145.

From the date of this amended Approval until such time the construction of the Upgrade is completed, the City shall submit the following to Stela Marusin of my staff via electronic mail at stela.marusin@ct.gov:

- 1. On or before thirty (30) days from the date of this amended Approval and on monthly basis thereafter, a copy of the schedule of values.
- 2. On or before thirty (30) days from the date of this amended Approval and on monthly basis thereafter, a copy of the work percentage completed.
- 3. On or before thirty (30) days from the date of this amended Approval and on a monthly basis thereafter, a copy of the monthly project meeting minutes.
- 4. On or before fifteen (15) days after completion of the Upgrade, the City shall certify to the Commissioner in writing that the Upgrade has been completed.

In the event there is any deviation from the schedule submitted to the Department on July 22, 2020, the City shall immediately notify the Commissioner of such deviation.

The plans and specifications are hereby approved in accordance with Section 22a-416 of the Connecticut General Statutes. This approval supersedes the September 30, 2020 approval letter from the Department.

This approval is not the permit which may be required for all or portions of the proposed construction under the provisions of the Inland Wetlands and Watercourses Act or the Tidal Wetlands Act (Sections 22a-28 to 45, inclusive, of the Connecticut General Statutes, as amended) and does not relieve you of the obligation to obtain any other authorizations as may be required by Federal, State, or Local laws or regulations.

If you have any questions regarding this matter, please contact Stela Marusin at 860-424-3742 or stela.marusin@ct.gov.

Sincerely,

Jennifer L. Perry, P.E. Director Water Planning & Management Division

Bureau of Water Protection and Land Reuse

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: City of Danbury

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT #: <u>CT0100145</u> **APPLICATION** #: <u>201905783</u> **FACILITY ID.** <u>034-001</u>

Maining Address: City of Danbury	Location Address:
Street: 155 Deer Hill Road	Street: Newtown Road
City: Danbury ST: CT Zip: 06810	City: Danbury ST: CT Zip: 06810
Contact Name: David Day	Contact Name: Ralph Azzarito (Veolia Water)
Phone No.: 203-797-4539	Phone No.: 203-748-9116
DMR/MOR contact information: ralph.azzarito@vec	olia.com
PERMIT INFORMATION DURATION 5 YEAR X 10 YEAR	30 YEAR
TYPE New _ Reissuance X Mod	dification
CATEGORIZATION POINT (X) NON-POINT	C () GIS #
NPDES (X) PRETREAT () GROUND WA	ATER(UIC) () GROUND WATER (OTHER) ()
NPDES MAJOR(MA) <u>X</u> NPDES SIGNIFICANT MINOR <u>or</u> PRETRE. NPDES <u>or</u> PRETREATMENT MINOR (MI)	
COMPLIANCE SCHEDULE YES X	NO
POLLUTION PREVENTION TREATMENT REC	
WATER QUALITY REQUIREMENT X OTHER	
OWNEDSHIP CODE	
OWNERSHIP CODE Private Federal State Municipal (town	only) X Other public
DEP STAFF ENGINEER Stela Marusin	DATE DRAFTED: September 2020
PERMIT FEES	
Discharge Code DSN Number Annual Fee	
111000 g 001 \$3,005.00	
A PROMECA THOM ETTER DATE IN THE STATE OF THE	
APPLICATION FEE PAID [X] YES □ NO	
PROCESSING FEE PAID [X] YES \square NO	
ANNUAL FEE PAID [X] YES □ NO	
FOR NPDES DISCHARGES Designed Position Code: 6606 Western Quality: Cl	essification Cool P. Somewhy 6606 00 2
Drainage Basin Code: 6606 Water Quality Cla	assification Goal: B Segment: 6606-00-3

NATURE OF BUSINESS GENERATING DISCHARGE

PROCESS AND TREATMENT DESCRIPTION (by DSN)

Secondary treatment with denitrification, seasonal disinfection and phosphorus removal.

RESOURCES USED TO DRAFT PERMIT

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

- X Secondary Treatment (Section 22a-430-4(r) of the Regulations of Connecticut State Agencies)
- X Case-by-Case Determination (See Other Comments)
- X In order to meet in-stream water quality (See General Comments)
- X Anti-degradation policy

Other - Explain

GENERAL COMMENTS

The City of Danbury ("Danbury") operates a municipal water pollution control facility ("the facility") located at Newtown Road, Danbury. The facility is designed to treat and discharge up to 12.0 million gallons a day of effluent into Limekiln Brook. The facility currently uses advanced biological treatment, including denitrification and seasonal chlorine disinfection with dechlorination to treat effluent before being discharged. Pursuant to Conn. Gen. Stat. § 22a-430, the Department of Energy and Environmental Protection ("the Department") has issued Danbury a permit for the discharge from this facility. Danbury has submitted an application to renew its permit. The Department has made a tentative determination to approve Danbury's application and has prepared a draft permit consistent with that determination.

The most significant change from the current permit is the reduction of the current permit design flow from 15.5 MGD down to 12.0 MGD. This reduction is warranted as the new phosphorus removal system has been designed to treat an average daily flow of 12.0 MGD. The permit also includes a new section requiring the permittee to submit an updated Sewer Service Area map, as well as an annual report informing the commissioner about improvements implemented within the collection system or at the treatment plant. The permit also includes a requirement of receiving water and effluent sampling for dissolved organic carbon (DOC). The Department is requiring DOC testing for the purpose of investigating the need for future Aluminum limits related to EPA's "2018 Final Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater". Carbonaceous BOD is included in the new permit as a monitoring-only parameter to be tested once per month. The CBOD results will be used to assess water quality conditions in receiving streams around the State.

The previous version of the draft permit included a compliance schedule requiring specific deliverables/submittals

by the Permittee to assure DEEP that it remains on-schedule to complete its upgrade for Phosphorus removal. The City raised strong objections to the placement of the requirements in the compliance schedule of the draft permit and instead proposed an alternate approach to deliver the submittals sought by DEEP - the amendment of DEEP's 2020 Approval Letter of Plans and Specifications (Tertiary System). Upon consideration of the request which achieves the same objective and discussion with agency counsel, the Department has agreed to modify the compliance schedule language to reference the amended approval and its requirements. The 2020 approval was amended by the Department on March 23, 2021 and includes the specific requirements (verbatim) which previously existed in the permit draft. A copy of this amended approval is included in the draft permit as attachment #3.

SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC NOTICE PERIOD AND THE DEPARTMENT'S RESPONSES

☐ The Department has received no written comments on the proposed of	action. (REVIEW BY MANAGEMENT
ONLY)	
\square Staff has reviewed the written comments and responded to the comments and responded to the comments and REVIEW BY SUPERVISOR AND MANAGEMENT ONLY)	
☐ The Department has received and Staff has reviewed written commer significant changes as follows:	nts on the proposed action and made

SPECIFIC REQUIREMENTS OR REVISIONS

The Department reviewed the application for consistency with Connecticut's Water Quality Standards and determined that with the limits in the draft permit, including those discussed below, that the draft permit is consistent with maintenance and protection of water quality in accordance with the Tier I Anti-degradation Evaluation and Implementation Review provisions of such Standards.

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). Danbury discharge monitoring data was evaluated for consistency with the available aquatic life criteria (acute and chronic) and human health (fish consumption only) criteria. In addition to this review, the statistical procedures outlined in the EPA <u>Technical Support Document for Water Quality-based Toxics Control</u> (EPA/505/2-90-001) were employed to calculate the need for such limits. Comparison of monitoring data (see attached) and its inherent variability with the calculated water quality-based limits indicates a statistical probability of exceeding such limits. Therefore, water quality-based limits for lead are included in the draft permit.

Permit limits for copper, zinc, chlorine, and ammonia were derived from the Total Maximum Daily Load (TMDL) established by the Department for the segment of Limekiln Brook not meeting water quality standards, pursuant to the requirements of Section 303(d) of the Federal Clean Water Act. The TMDL includes a waste load allocation (WLA) to the Danbury Water Pollution Control Facility ("WPCF") for each of the aforementioned parameters. These permit limits were calculated from the waste load allocations consistent with EPA's Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001). Limits are expressed in the permit as concentrations for all parameters based on the long-term average treatment plant performance required to consistently meet the wasteload allocation for each parameter. Mass limits were converted to concentration units by dividing the calculated mass limit by the critical treatment plant flow used to develop the TMDL (13.15cfs for WLA that apply year-round and 14.06cfs for WLA that apply during the winter only). Past monitoring data submitted by the Danbury WPCF was used to estimate expected variability in effluent quality (coefficient of variation (CV) = 0.3 for copper and zinc; CV = 1.2 for ammonia). Limits for ammonia included in the previous permit were more restrictive than TMDL/WLA – based limits for the period June through September. These limits were retained in this permit as required by the anti-backsliding provisions in section 22a-430-4(l)(4)(A) of the Regulations of Connecticut State Agencies.

The draft permit also includes performance-based limits for chlorine reflecting the expected operation of the dechlorination system from May 1st through and including September 30th each year. The Department considers compliance with the performance-based limits for chlorine sufficient to meet the WLA for chlorine established in the

TMDL.

Another condition is included in this permit:

Minimum Levels (ML) are established for several parameters noted with an asterisk in Table C of the draft permit that require the use of sensitive analytical methods and clean sampling techniques for monitoring effluent quality.

A compliance schedule is included for the reduction of phosphorus in the effluent with limits established using the following methodology:

Currently, the facility discharges into a portion of Limekiln Brook that has been identified on Connecticut's List of Waters Not Meeting Water Quality Standards. Nutrient enrichment is a contributing cause of the impairment to this portion of Limekiln Brook. To address this impairment, the Department developed an interim nutrient management strategy for freshwater non-tidal streams. The strategy focuses on phosphorus, since phosphorus is the primary limiting nutrient in freshwater systems. The draft permit includes a compliance schedule that will reduce phosphorus in the effluent from the facility. The current limit, calculated over the season, is 0.6mg/l per month and in addition, during this season, Danbury's average monthly discharge cannot exceed 0.6 mg/l for two consecutive months. The Department anticipates that Danbury will continue chemical treatment to meet this limit. The compliance schedule requires Danbury to plan, design and construct additional facility improvements to meet a more stringent water quality standard based limit by April 1, 2022 as discussed below.

The lower water quality standard based limits for implementation of the interim strategy for phosphorus was calculated in the following manner:

A nutrient watershed analysis was conducted for the Limekiln Brook watershed that indicated significant phosphorus loading contributions from the Danbury WPCF into the brook. The seasonal (April 1st through October 31st) nutrient loading from this facility discharging to the watershed was reduced to achieve an enrichment factor of 8.4 or lower throughout the brook. An EF is representative of the amount of anthropogenic phosphorus loading to river and streams. It is calculated by dividing the current total seasonal phosphorus load by a modeled total phosphorus load under complete forested conditions at a particular point along the river. The goal of an 8.4 enrichment factor represents a threshold at which a significant change is seen in the algal communities indicating highly enriched conditions and impacts to aquatic life uses.

The current enrichment factor at the Danbury WPCF discharge is 89.8. The final proposed seasonal load allocation for Danbury WPCF is 7.55 lbs/day. This load equates to a proposed treatment performance limit of 0.10 mg/l multiplied by the current seasonal average flow of 9.05 MGD.

This limit is consistent with the narrative policy statements in the CT WQS (Paragraph 19, page 6 and SURFACE WATER CLASSIFICATIONS AND CRITERIA, CLASS B DESIGNATED USES AND CRITERIA, page 12) and where the facility discharges its effluent is expected to result in the attainment and maintenance of all designated uses for that portion of Limekiln Brook. If the Department develops numeric criteria in the future, or it is found that the current limit is not sufficient to achieve designated uses, the facility may need to meet a more stringent limit.

Translating the average performance level of 7.55 lbs/day into enforceable permit limits requires consideration of effluent variability and frequency of monitoring in order to comply with federal permitting regulations. The procedure used is as follows:

- 1. Consider the permit performance level (0.10 mg/l) to be equivalent to the Long-Term Average (LTA)
- 2. Calculate the Maximum Daily Limit by multiplying the LTA by the 99th percentile LTA Multiplier appearing in Table 5-2 of the Technical Support Document (page 103 of EPA/505/2-90-001) corresponding to a CV (co-efficient of variation) of 0.6% to account for effluent variability:

Maximum Daily Limit: 0.10 mg/l * 3.11 = 0.311 mg/l

3. Calculate the Average Monthly Limit by multiplying the LTA by the 95th percentile LTA Multiplier appearing in

Table 5-2 of the Technical Support Document corresponding to a CV of 0.6% to account for effluent variability and either n=4 samples/month or n=10 samples/month as appropriate for the facility to account for the precision of estimating the true monthly average based on an average for the days the effluent was sampled:

Average Monthly Limit: 0.10 mg/l * 1.38 = 0.138 mg/l

Summary of Final Limits for Danbury:

Average Daily Load = 7.55 lbs/day

Total Seasonal Load = (7.55 lbs/day * 214 Days/Season) = 1,615.7

Maximum Daily Limit = 0.31 mg/l

Average Monthly Limit = 0.14 mg/l

(With respect to the foregoing summary of limits, it should be noted that compliance with the Maximum Daily Limit or the Average Monthly Limit during the time the seasonal load limit is calculated will not ensure compliance with the Total Seasonal Load limit. For example, if the Permittee discharged phosphorus at the maximum permitted by either the Maximum Daily Limit or the Average Monthly Limit throughout the time that the seasonal load is calculated, the Permittee would exceed the Total Seasonal Load limit. For this reason, the Permittee must monitor compliance with the Total Seasonal Load limit independent of its compliance with the Maximum Daily Limit and the Average Monthly Limit.

WATER QUALITY LIMIT CALCULATIONS

See attached

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Affirmative Action/Equal Opportunity Employer

Notice of Tentative Determination to Approve NPDES Permit Renewal Applicant: City of Danbury Application No. 201905783 City/Town: Danbury

The Commissioner of the Department of Energy and Environmental Protection ("DEEP") hereby gives notice that a tentative determination has been reached to approve the following application.

Applicant's Name and Address: City of Danbury, 155 Deer Hill Road, Danbury, CT 06810

Contact Name and Phone No.: David Day, 203-797-4637

Type of Permit and #: NPDES – CT0100145

Type of Facility: Domestic Wastewater Treatment

Facility Location: Danbury WPCF, Newtown Road, Danbury, CT 06810

Facility design capacity: 15.5 million gallons per day ("MGD") prior to completion

of facility upgrades

12.0 MGD subsequent to completion of facility upgrades

COMMISSIONER'S FINDINGS/REGULATORY CONDITIONS

The applicant has previously received a permit from the Department of Energy and Environmental Protection ("Department") authorizing the discharge of up to an annual average daily design flow of 15.5 MGD of secondary biological treated municipal wastewaters to Limekiln Brook. The ongoing phosphorus removal upgrades ("facility upgrades") will reduce its daily design flow rate from 15.5 MGD down to 12.0 MGD. Therefore, upon the completion of the phosphorus removal upgrades, the permitted annual average daily flow will be 12.0 MGD. The applicant has submitted an application to renew its existing permit. This renewal application is the subject of this notice.

THE DRAFT PERMIT

The Department has prepared a draft permit consistent with the tentative determination to approve Danbury's renewal application. This draft is available on the public participation section of the Department's website. In accordance with Sections 22a-430-4(1) and 22a-430-4(r) of the Regulations of Connecticut State Agencies (RCSA), the draft permit contains effluent limitations that meet Connecticut's Water Quality Standards for the following: Ammonia, Aquatic Toxicity, Biochemical Oxygen Demand (5 day), copper, dissolved oxygen, escherichia coli, flow, pH, lead, total phosphorus, total suspended solids and zinc. The draft permit also includes performance-based limits for chlorine. **The draft requires the applicant to comply**

with new phosphorus removal limits no later than April 1, 2022.

INFORMATION REQUESTS/PUBLIC COMMENT

This application has been assigned No. 201905783; please use this number when corresponding with DEEP regarding this application. Interested persons may obtain copies of the application from the applicant at the above address. Due to the ongoing Covid-19 virus pandemic, the Department of Energy and Environmental Protection located at 79 Elm Street, Hartford, CT is closed to the public until further notice. However, electronic copies of the application and supporting documentation can be provided to interested persons via email. Any such requests for electronic documents may be directed to Stela Marusin of the Municipal Wastewater Section at 860-424-3742 or Stela.Marusin@ct.gov.

Before making a final decision on this application, the Commissioner shall consider written comments on the application from interested persons. Written comments on the application should be directed to Stela Marusin via electronic mail to: Stela.Marusin@ct.gov no later than thirty (30) days from the publication date of this notice. Written comments may also be submitted in paper form to the Department of Energy and Environmental Protection located at 79 Elm Street, Bureau of Water Protection and Land Reuse Hartford, CT. In this submittal please identify the name of the staff assigned to the application, the permit application number and your phone number and/or email address to facilitate responses to your comments. Due to the Covid - 19 virus Pandemic and social distancing measures implemented by DEEP staff, there could be delays in the response to your comments. You may contact the staff person identified in this notice with any questions you may have.

PETITIONS FOR HEARING

The Commissioner may conduct a public hearing if the Commissioner determines that the public interest will best be served thereby, or shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Petitions for a hearing shall be submitted within thirty (30) days from the date of publication of this public notice and should include the application number noted above and also identify a contact person to receive notifications. Petitions should also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. In order to facilitate the filing of requests for hearing during the COVID-19 emergency and consistent with the Department's Temporary Directive, the Office of Adjudications will accept electronically-filed petitions in addition to petitions submitted by mail. Petitions with required signatures may be filed by email to deep.adjudications@ct.gov or mailed to the DEEP Office of Adjudications, 79 Elm Street, Hartford, CT 06106. Within thirty (30) days of their filing, original petitions that were filed electronically must be also be mailed to the Office at the above-noted address. If the original petition exists only in electronic format or signatures were produced using a computer or typewriter, the petition must be submitted with a statement bearing the wet-ink signature of the petitioner that the petition is only available in that format and has been submitted to satisfy the requirement that an original petition be filed. If a hearing is held, timely notice of such hearing will be published in a newspaper of general circulation and posted on the DEEP website at www.ct.gov/deep. Additional information at www.ct.gov/deep/adjudications.

<u>Jennifer L. Perry</u> Jennifer L. Perry, P.E. Director

Water Planning and Management Division Bureau of Water Protection and Land Reuse

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act. Please contact Barbara Viadella or Cenit Mirabal, DEEP Office of Diversity and Equity at (860) 418-5910 or by email @ deep.accommodations@ct.gov if you are requesting a communication aid or service, have limited proficiency in English, need some other type of accommodation, or if you wish to file an ADA or Title VI discrimination complaint. In order to facilitate efforts to provide an accommodation, please request all accommodations as soon as possible following notice of any agency hearing, meeting, program or event. (Effective November 2020.)