

OLD NORTH BRIDGE

TOWN OF CONCORD

TOWN MANAGER'S OFFICE
22 MONUMENT SQUARE - P.O. BOX 535
CONCORD, MASSACHUSETTS 01742

TELEPHONE (978) 318-3000
FAX (978) 318-3002
CHRISTOPHER WHELAN, TOWN MANAGER

August 9, 2012

VIA Electronic Mail and First Class Mail

Stephen Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency- Region 1
5 Post Office Square- Suite 100 (OEP06-1)
Boston, Massachusetts 02109-3912

Mr. David Ferris, Director
Massachusetts Wastewater Management Program
Department of Environmental Protection
One Winter Street
Boston, Massachusetts 02108

Re: Concord, MA - Draft NPDES Permit #MA0100668
Town of Concord - Comments

Dear Mr. Perkins:

The Town of Concord, Massachusetts has reviewed the draft NPDES permit for its wastewater treatment plant (WWTP) which was placed on public notice for the period of July 13- August 11, 2012. The Town offers the following comments on this draft permit and hopes USEPA will review the context of each comment and make appropriate changes to the final permit.

Background

The Town currently has a 1.2 MGD advanced wastewater treatment facility, which is operating under an NPDES permit (MA0100668), issued to the Town by USEPA and MassDEP. This permit expired in 2011 but remains administratively in force and will be updated and reissued

following the completion of the current public notice process. The existing and proposed permit requires the WWTP to treat its wastewater to an extremely high level using advanced treatment technologies including the use of Co-Mag for phosphorus removal. The Town is approximately 30% sewerred with the remaining parcels relying on Title 5 systems.

In 2003, the Town completed a Comprehensive Wastewater Management Plan (CWMP). Due primarily to collection system infill and modest expansion of the municipal sewer system to several neighborhoods where it had been determined to be a net environmental benefit, the Town has reached its flow capacity at the WWTP. Over the past several years, the Town has undertaken an extensive technical review of options to increase its ability to treat wastewater through a centralized or sub-regional treatment system, where necessary. This review has subsequently led to a detailed evaluation of options for treatment which have been captured within an in-depth wastewater capacity alternatives analysis.

In addition to treatment system expansion alternatives, the Town has continued to invest considerable amount of resources into an inflow/infiltration (I/I) reduction program, an exemplary groundwater recharge program which has been designed to capture storm water from new developments (which includes an evaluation of options for enhanced recharge within existing sites), and one of the more comprehensive water conservation efforts in the state¹. Our conservation program was developed by a full-time conservation coordinator and includes demand management incentives for both residential and commercial customers. One notable measure of success is our Residential Gallons Per Capita Day level of 63 gpdpc, which is below the stated adopted performance standard of 65 gpdpc.

Ultimately, as communicated directly to your staff prior to the issuance of this draft permit, the Town continues to believe that it would be best served if the permitting of our wastewater needs could be integrated with other regulated water resource management programs. While Concord regrets that EPA's permitting schedule cannot be modified to allow for such an approach, we are encouraged that our interest has at least been acknowledged within the Fact Sheet.

Comments Regarding Permit Conditions

The Town has three significant areas for comments and several other comments about the conditions in the draft permit. The major comments are:

1. **Flow Limits**: Concord has been actively engaged in wastewater planning activities which will supplement our Comprehensive Wastewater Management Plan, certified by DEP back in 2004. As part of these efforts, an Integrated Planning Initiative, completed in

¹ MA DEP Water Conservation Award Winner 2008 & 2010

early 2009, concluded that an additional flow of 320,000 gallons per day was necessary to meet existing wastewater requirements resulting from development and re-development under current zoning. Projected wastewater flows associated with objectives referenced in Concord's 2005 Comprehensive Long Range Plan and 2004 Planned Production Housing Plan and quantified in the a February 2009 report by the Wastewater Planning Task Force Report would require additional treatment capacity of 600,000 gpd. The Wastewater Planning Task Force (convened at the direction of Concord Board of Selectmen), subsequently presented these findings to the 2009 Annual Town meeting where they received strong community support. More information and documents are available at:

http://www.concordma.gov/pages/ConcordMA_BComm/Wastewater%20Task%20Force.

The wastewater needs identified above led to comprehensive planning activities that have focused on the identification of alternatives for creating additional wastewater capacity. Despite the complementary efforts placed on wastewater flow mitigation via water conservation and infiltration/inflow programs noted above, it has become increasingly evident that additional capacity at the Concord municipal WWTF is needed. Review of options for effluent disposal includes possible groundwater discharge to supplement the WWTF surface water discharge. The town has been working towards evaluating a possible groundwater disposal site adjacent to the existing WWTF. As we continue to explore opportunities associated with each wastewater capacity alternative evaluated, it is clear that an increase in the effluent discharge capacity under the WWTF surface water discharge permit may be the most viable alternative available.

The effluent flow limit of 1.2 MGD annual average included within this draft permit has already placed constraints on the development and re-development opportunities within the Town of Concord. The Town understands that a formal request for a flow increase will require a future modification to the permit and will be initiated via a notice of project change to be via the Massachusetts EOEEA-MEPA office.

2. Phosphorus Limits: The Town is pleased to see no change in the Total Phosphorus (TP) limit for summer and winter seasons. For the record,
 - a. Since the design and construction of the state of the art CoMag process placed on line in February of 2008, the WWTF has consistently met permit limits for TP.
 - b. The fact sheet for the draft permit shows that, even at very low flow (7Q10) conditions, the WWTF (even if discharging right at the permit limit) raises the instream concentration of phosphorus in the Concord River only minimally (from 45 µg/L to 53 µg/L), and the resulting concentration is well below EPA's Gold Book criterion of 100 µg/L. Therefore, the WWTF is not causing or contributing to any phosphorus-related impairment.

- c. Moreover, as the fact sheet notes, Concord's summer TP limit of 0.2 mg/L represents highest and best practical treatment (i.e. the limit of technology) for POTWs.
 - d. The Town is pleased to see the Ortho-phosphate monitoring requirement has been removed from the permit. This is appropriate given that TP (of which ortho-phosphate is a subset) is consistently below the permit limit.
3. Aluminum Limit: The effluent limit for total aluminum of 306 ug/l average monthly is troublesome and incorrectly applied for several reasons:
- a. The effluent taken from the WWTP consistently passes its effluent toxicity tests with no acute or chronic toxicity,
 - b. The aluminum criteria upon which the limit is based introduces numerous scientific questions as to its applicability for Massachusetts' waters. Most notably, the criteria document published by USEPA (National Recommended Water Quality Criteria: 2002, EPA-822-R-02-47) notes that the chronic criterion for aluminum of 87 µg/L "is based on a toxicity test with the striped bass in water with pH = 6.5-6.6 and hardness < 10 mg/L. Data ... indicate that aluminum is substantially less toxic at higher pH and hardness." These conditions are not representative of *the ambient conditions for the Concord River - See, e.g., monitoring results available at <http://www.oars3rivers.org/river/waterquality/reports>*.
 - c. The aluminum calculations used to determine "reasonable [risk] potential" (Appendix C of the fact sheet) included all effluent aluminum data, not those obtained during the low flow periods when the proposed mixing calculation was conducted. The review of the data clearly shows that effluent aluminum concentrations are higher in the winter, when instream flows are much higher than during the critical low summer flow period. The Town requests that USEPA recalculate the "reasonable [risk] potential" during the months of May to October using effluent data from those time periods,
 - d. The Town understands that the MassDEP and others are currently evaluating aluminum criteria for Massachusetts' waters and such a project will likely result in developing new, less restrictive criteria. The Town feels that it is premature and unreasonable to include a limit in this permit based upon a criteria value that is very likely to be changed;
 - e. Not only will an aluminum limit result in increased and needless operating cost, it will require the Town to use more chemicals, produce more sludge, utilize more electricity and increase its "carbon footprint" all for the purpose of meeting a flawed water quality criteria value;

- f. The Town views this permitting approach to be inconsistent with USEPA's, "sustainability" mission and believes the effluent limit should not be included in the final permit.
4. Collection System Mapping and Operations and Maintenance Plans: The collection system mapping (page 7) and operation and maintenance plan (pages 7-8) are too prescriptive in format and introduce a significant level of effort and paperwork. These conditions also expand greatly upon what could reasonably be considered NPDES authority. The Town has a robust mapping system of its sewer collection system and has regular operation and maintenance procedures in place. The Town acknowledges the value of such a system but feels the requirements outlined in the draft permit and the annual reporting are too detailed and are prescribing elements of a program that are not necessary in an NPDES permit. The Town recommends and requests the following actions be taken with respect to these plans:
- a. The permit language should be significantly modified to include a more general requirement for proper mapping and an operation and maintenance plan. For example;, the statement "Such map(s) shall include, *but not be limited* to the following", should be stricken as it imposes a subjective and unattainable limit for compliance:
 - b. The requirement for a submittal of an annual report should be stricken.

Other comments on conditions in the draft permit include:

- c. Whole Effluent Toxicity: The whole effluent toxicity (WET) limits (LC50 \geq 100% and "report" C-NOEC) should be set with recognition of the fact that the Concord facility has a long record of no toxicity events (see data presented in the Fact Sheet). The one acute toxicity excursion seems to be an anomaly as there was no corresponding chronic toxicity identified. Based on this history, the Town believes it is more than justified to requests the following:
 - i. WET testing requirements be reduced to 2 times per year for acute toxicity only.
 - ii. The required "second week of month" testing constraint be changed to any time within each designated month as the Town understands that the MassDEP has received numerous such requests regarding toxicity testing from those laboratories that perform this work as it would eliminate a significant imbalance in their workload. The Town understands that MassDEP is not opposed to only designating the months for testing.
- d. Dissolved Oxygen: The WWTF has had many years of consistent compliance with Dissolved Oxygen (DO). It is observed that the DO in the effluent is, at

time, higher than the receiving water. It is therefore requested that the permit reflect a decrease in DO monitoring from once per day to once per week.

- e. Di(2-Ethylhexyl) Phthalate (DEHP): The Town understands that the Concord River is used as a public water supply by the Town of Billerica. We also recognize that like other Class B rivers in Massachusetts used for water supply with treatment, such protection has been afforded Class B standard waters for many years. While it is plausible that the inclusion of DEHP has been added because of this, it is noted that DEHP is a chemical found in the plastic pipes which are commonly used in water supply, sewer collection and storm water as well. Trace-levels of DEHP, similar to the level detected in the Town's effluent, are universally detected. The Town has no industries which could discharge DEHP in the effluent. Hence, its origins are most likely traced to the newer plastic sewer mains and services only. As there is no conventional treatment technologies available which could provide effectively treatment, the Town requests that the monitoring of DEHP be removed from the permit. If not eliminated, monitoring should be reduced with an "opt-out" provision if such monitoring provides no value.
- f. pH: The Town agrees with the pH range as provided for within the draft permit. Specifically, the lower limit of 6.0 SU acknowledges natural dilution from the Concord River which is more environmentally advantageous than requiring the unnecessary introduction of additional chemical treatment.
- g. Reporting Format: The Town is confused about the reporting requirements (page 12) in section c which still require submittal of hard copies even though the permit previously states that "...it will no longer be required to submit hard copies...". The Town requests a clarification of these reporting requirements in the final permit.

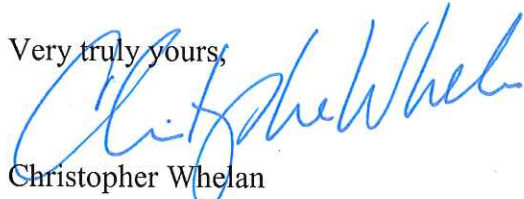
Comments on the Fact Sheet:

- a. Industrial Users: The Town would like to note that it will in the near future be receiving flow from an industrial user (Welch's fruit juice) and it will be properly permitted by the Town (page 5).
- b. Aluminum: The Town notes in the discussion of TMDLs that there is no 303d listing or need for a TMDL for aluminum as MassDEP has not found aluminum to be a problem in the Concord River (page 8).
- c. The reasonable potential for aluminum should be re-calculated using effluent values for the months May-October, and those results should be used in the low flow analysis. The effluent data (Appendix A) shows wide differences in effluent levels with lower values present during low flow, river conditions.
- d. The Town appreciates USEPA's acknowledgement of its interest in exploring planning and permitting opportunities as they relate to an integrated water resource

management model. Specifically one which leverages future investment and management tools required to operate and maintain essential drinking water, wastewater and stormwater systems. The Town feels it would be appropriate to complete that process before finalizing this permit and hopes that USEPA will use discretion and reasonableness in carrying out the guidelines in the strategy that "...permit issuance...shall not be delayed while the integrated plan is being developed..." as this approach will likely take away any incentive to undertake such an innovative approach.

The Town has invested significant resources in its wastewater treatment system and in its future planning needs analysis and feels some of draft permit conditions are not in concert with its efforts for a sustainable future. The Town requests that USEPA take these comments seriously and make appropriate changes to the final permit conditions in the draft permit (particularly aluminum).

Very truly yours,



Christopher Whelan
Town Manager

Cc: Beth Card, Assistant Commissioner, MassDEP-BRP
Brian Pitt, NPDES Program Supervisor, USEPA-OEP
Robin Johnson, USEPA-OEP (Mail Code OEP06-1)
Kathleen Keohane, NPDES Program, MassDEP-BRP
Kevin Brander, Municipal Services and Wastewater Management, MassDEP-NERO
Richard Reine, Concord Public Works, Director
Alan Cathcart, Concord Public Works, Water and Sewer Superintendent
Town of Concord, Board of Selectman
Town of Concord, Public Works Commission