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ENVIRONMENTAL APPEALS BOARD

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November 26, 2008

By Express Delivery

U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board
1341 G Street, N.W., Suite 600
Washington, D.C. 20005

RE: NPDES Permit No. MA0039853
Wayland Wastewater Management District Commission Treatment Plant

To the Clerk of the Environmental Appeals Board:

Please find enclosed for docketing a Petition for Review of the above-referenced permit.

Thank you.

Sincerely,



Deirdre C. Menoyo

CC: Robert Varney, Regional Administrator
US EPA, Region 1

Glenn Haas, Director
Division of Watershed Management
Massachusetts Department of Environmental Protection

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ENV. APPEALS BOARD

**BEFORE THE
ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In re: Town of Wayland
Wastewater Management District Commission
NPDES Permit No. MA0039853

NPDES Appeal No. _____

PETITION FOR REVIEW

FROM

THOMAS B. ARNOLD

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Dated: November 27, 2008

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¹ The NPDES permit was transferred to the Town of Wayland on November 5, 1999

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PETITION FOR REVIEW

Pursuant to 40 C.F.R. § 124.19(a), Thomas B. Arnold hereby petitions the Environmental Appeals Board (“Board”) for review of NPDES Permit No. MA0039853 (“Permit”).¹ The Permit was jointly issued to the Town of Wayland, Wastewater Management District Commission (“Permittee”), on September 30, 2008, by the United States Environmental Protection Agency (“EPA”), Region 1 (“Region”), and the Massachusetts Department of Environmental Protection (“DEP”).

We assert that the issuance of the Permit itself, as well as certain conditions included in the Permit, and other conditions that EPA and DEP omitted from the Permit, violate the applicable requirements of the Federal Clean Water Act, 33 U.S.C. § 1251 *et seq.* (“CWA”), the Massachusetts Clean Water Act, M.G.L. c. 21, § 26 *et seq.* (“Act”), and their implementing regulations. These conditions pertain primarily to the discharge of phosphorus. As shown in detail below, the Permit allows the Permittee to continue discharging phosphorus at levels that cause or contribute to severe eutrophication of the Sudbury River and that do not ensure compliance with applicable water quality standards. However, the limits and conditions are not the most serious problem with the Permit. Indeed, its scarred history of official disregard for the CWA and the Permittee’s history of non-compliance, taken separately or together, warrant quashing the Permit and starting over, with an interim compliance order and schedule to begin to remedy past deficiencies and address future additive pollution.

¹ Exhibit 1, September 30, 2008 Town of Wayland NPDES Permit No. MA0039853.

BACKGROUND

THE SUDBURY RIVER

I. Wild and Scenic River

A. River through national wildlife refuge affords recreation, scenery and ecology near an urban metropolis.

Rising in Cedar Swamp in Westborough, the Sudbury River flows northeastly for 45 miles through the towns of Southborough, Hopkinton, Ashland, Framingham, Wayland, Sudbury, and Lincoln before joining with the Assabet in Concord to form the Concord River, which empties into the Merrimack River, and eventually, the Atlantic Ocean.

Midway along the river's final sixteen-mile stretch leading to the confluence with the Assabet River lies the particular reach of the Sudbury River affected by the discharge. In 1999, along with smaller segments of the Assabet and Concord Rivers, this reach was federally designated as a Wild & Scenic River. The "outstandingly remarkable" resource values warranting this designation include, among others, ecology, scenery and recreation. These resources are highlighted in the excerpts from the "Sudbury River Boating Trail," a guide and manual attached² here and available at <http://www.sudbury-assabet-concord.org/boatersTrail2/>, the website for the Sudbury, Assabet and Concord Wild and Scenic River Stewardship Council ("RSC"). Mr. Arnold participates in the work of the RSC along with local, state and federal partners.³ Both the attached, annotated Google map⁴ and the attached aerial photograph⁵ show the close proximity of the outfall location to the Great Meadows National Wildlife Refuge ("Refuge") (within 300 feet). The map and aerial photo also show the abutting Refuge that, with other, mostly adjoining open space preserves, extends along both sides of the river for ten river miles.

² See Exhibit 2, Sudbury River Boater's Trail, map and guide.

³ See Exhibit 3, Thomas Arnold's November 25, 2008 Affidavit.

⁴ See Exhibit 4. Google map of river in vicinity of discharge.

⁵ See Exhibit 5, aerial photos of river and original discharging facility.

In signing the Wild and Scenic legislation on April 9, 1999, President Clinton said:

The addition of these rivers to the National System recognizes their outstanding ecology, history, scenery, recreation values, and place in American literature. Located about 25 miles west of Boston, the rivers are remarkably undeveloped and provide recreational opportunities in a natural setting to several million people living in the greater Boston metropolitan area. Ten of the river miles lie within the boundary of the Great Meadows National Wildlife Refuge, established to protect the outstanding waterfowl habitat associated with extensive riparian wetlands. Historic sites of national importance, including many in the Minute Man National Historical Park, are located near the rivers in the Town of Concord. Among these is Old North Bridge, site of the revolutionary "Shot Heard 'Round the World." The rivers are featured prominently in the works of nineteenth century authors Hawthorne, Emerson, and Thoreau and have been the subject of ornithological studies since early days of field observation techniques." [Emphasis added.]

B. EPA recognizes eutrophic conditions mar lake-like river reach.

However, the river in the vicinity of the permitted discharge suffers from severe eutrophication. Photographs provided by Mr. Arnold in his comment letter⁶ and with his attached Affidavit⁷ show wide swaths of eutrophic growth, including algae, duckweed and water chestnuts, all signs of eutrophication attributable to excess nutrients in the river. Two photos show a duckweed harvester deployed at significant cost by the US Fish and Wildlife (for the stretch bounded by the Refuge), the adjoining towns of Sudbury, Wayland, Lincoln and Concord, as well as by private citizens and groups. Mr. Arnold's photographs demonstrate the extensive impingement of noxious plant and algae growth on the recreational value of the river to canoeists such as himself, who started leading canoe tours on the Sudbury River in 1977. Such growth results from excess nutrients, including phosphorus, in the water column.

EPA has long characterized this slowly-flowing river reach as "lake-like." In Fact Sheets for the original NPDES permits issued to the original industrial discharger,

⁶See Exhibit 6, Thomas B. Arnold, April 11, 2006 comment letter.

⁷See *id.*, photos attached to Arnold letter and comments.

Raytheon Corporation, in 1984⁸ and 1990,⁹ EPA notes that the river's elevation descends only one foot throughout the twelve-mile stretch flowing through the National Wildlife Refuge meadowlands. Both Fact Sheets state: "the river is akin to an elongated lake."¹⁰ Indeed, not far downstream from the wide flood plain into which the discharge flows is an actual 70-acre lake within the river called Fair Haven Bay, a kettle hole similar to nearby Walden Pond.¹¹ Although the Sudbury flows freely in this stretch, there are six dams upstream in the watershed that inevitably affect the flow regime.

EPA has also long publicly recognized the eutrophic impairment of the Sudbury in the vicinity of the discharge. The Fact Sheet for the 1998 permit for the Wayland Business Center (that purportedly succeeds the Raytheon permits) states: "The Sudbury River does not currently meet its in-stream water quality standard for nutrients."¹² The 1998 permit included a relatively high 0.5 mg/l summer phosphorus limit because, according to EPA, the permit "contains a watershed trading requirement which will result in a net decrease of phosphorus entering this watershed during the life of the permit."¹³ (This limit was particularly high, considering that EPA staff advised at that time that 0.05 mg/l total phosphorus levels had been achieved at treatment plants discharging to the Chesapeake -- in Aberdeen, Maryland and Arlington, Virginia.)¹⁴

Whether or not the supposedly required "trading" occurred, the uncertainty of which will be discussed below, eutrophic conditions persist in 2008. Throughout the

⁸ Exhibit 7, June 5, 1984, EPA Fact Sheet for Raytheon Corporation, NPDES Permit No MA001511

⁹ Exhibit 8, August 8, 1990, EPA Fact Sheet for Raytheon Corporation NPDES Permit No. MA0001511.

¹⁰ *Id.*, p. 3. The Sudbury-Concord system has been described as a "snake-like lake." See Exhibit 9, SuAsCo Watershed 2001 Water Quality Assessment Report published by the DEP, dated 2005 (DEP Report"), p. 22, *citing* Hogan, P.M. Concord and Sudbury Rivers Water Quality Analysis. Massachusetts Water Resources Commission, (1975), excerpts.

¹¹ "Eleven thousand years ago, this widened portion of the Sudbury came into being when a gigantic block of buried ice, left behind by the glaciers, slowly melted away creating a wide and deep depression. The debris covering it slumped down, leaving a kettle-shaped hole. The size of the buried ice cake determined the size of the hole." Zwinger and Teale, *A Conscious Stillness* (1982), p. 211.

¹² See Exhibit 10 April 30, 1998 EPA Fact Sheet for Wayland Business Center, LLC, NPDES Permit No. MA0039853, p. 3.

¹³ See Exhibit 11, September 4, 1998 Wayland Business Center, LLC, NPDES Permit No MA0039853.

¹⁴ See Exhibit 12, 2/5/98 memo from Pincumbe to Downing, Papdoupouloos.

THE PERMIT

This “permit” and this discharging facility have a tortuous and checkered history. In the following section, legal analysis of facts gleaned from EPA’s file characterizes the Permit’s dubious regulatory status.

II. Relevant History of Prior NPDES Permits

A. September 28, 1990 NPDES Permit – Raytheon

Raytheon shut down its treatment plant and ceased discharging sanitary wastewater as of November 30, 1995²³. Thereafter, by letter dated September 20, 1996, Raytheon requested formal cancellation of its permit.²⁴ In accordance with applicable EPA regulations, the agency issued notice to the public that EPA and MA DEP intended to terminate the permit and also advised that, once terminated, any resumption of a discharge from that particular facility would require that all requisite pollution controls be in place prior to any discharge.²⁵ After the 30-day period for receipt of public comment, EPA issued an April 10, 1997 letter advising Raytheon that the permit had been terminated and reiterating that any future discharges would require all requisite pollution controls to be in place prior to any discharge.²⁶

B. September 4, 1998 NPDES Permit – Wayland Business Center²⁷

1. Permit Issuance and Lack of Agency Follow Through

Beginning at the end of October 1997, the Wayland Business Center, LLC began applying pressure on EPA to just “re-activate” the Raytheon NPDES permit.²⁸ EPA advised the permit applicant that it would be considered a new discharger.²⁹ Permit application forms and accompanying correspondence submitted on behalf of the applicant

²³ See Exhibit 16, December 13, 1995 letter from Raytheon to EPA

²⁴ See Exhibit 17, September 20, 1996 letter from Raytheon to EPA

²⁵ See Exhibit 18, March 4, 1997 EPA/DEP Public Notice

²⁶ See Exhibit 19, April 10, 1997 EPA letter to Raytheon terminating the NPDES permit

²⁷ The NPDES permit was transferred to the Town of Wayland on November 5, 1999

²⁸ See Exhibit 20, October 23 & 27, 1997 handwritten note from Olga Vergara to Jane (presumably Jane Downing) concerning the potential political significance of an attached October 22, 1997 letter from Applied Environmental Systems, Inc.

²⁹ See Exhibit 21, November 26, 1997 letter from EPA to Applied Environmental Systems, Inc.

Wayland Business Center, LLC, stated that wastewater would be limited to standard sanitary wastewater generated by office building operations and that no industrial wastewater would be generated.³⁰ Application Form 2C (*see* p. V-1) indicated that there would be no phosphorus in the treatment plant effluent.³¹

Apparently, Wayland Business Center, LLC (part of Congress Group Ventures), continued to press for expedited permit issuance and for the ability to discharge into the already stressed Sudbury River. By January 14, 1998, a plan had been hatched to give Wayland Business Center, LLC what it wanted – the ability to get rid of its sewage without having to make any capital investment. An internal EPA memoranda from Jane Downing³² described the plan as follows: a) the facility will be considered a new discharger; b) “[a]ny new draft permit would include a ‘Best Available Treatment’ limit of 0.2 mg/l for phosphorus”; c) develop a trading option for non-point source nutrient abatement within the watershed to offset phosphorus point source loading “in order to rationalize a new discharger into a water quality-limited water body”; d) “[i]f arguably zero or negative net nutrient loading EPA could argue no new wasteload allocation necessary prior to permit reissuance”; e) “[a]dditional marketing is needed for the Wayland permit, but better than trying to rationalize additional phosphorus loading to a currently stressed resource”. [Emphasis added.]

Memoranda prepared in subsequent weeks reveal that EPA and the applicant were focused on how to maximize the facility’s total flow.³³ During that time, an EPA staffer sent a detailed memo to Ms. Downing reporting on technologies and facilities that were using those technologies to achieve total phosphorus levels of 0.05 mg/l at the point of discharge.³⁴ Nevertheless, rather than establishing a phosphorus discharge limit based on then available technology, EPA would choose a 0.5 mg/l monthly average total

³⁰ See Exhibit 22, November 4, 1997 letter from Applied Environmental Systems, Inc. to EPA

³¹ See Exhibit 23, December 4, 1997 letter from Applied Environmental Systems, Inc. to EPA together with Application Forms 1 & 2C

³² See Exhibit 24, January 14, 1998 memorandum from Jane Downing to John DeVillars, EPA Regional Administrator, Subj: Congress Group Ventures Wayland Raytheon NPDES Permit

³³ See, for example: Exhibit 25, January 27, 1998 memorandum from George Papadopoulos to Jane Downing; Exhibit 26, March 18, 1998 memorandum from Applied Environmental Systems, Inc. to Adam Weisenberg, legal counsel to the applicant; Exhibit 27, March 25, 1998 memorandum from George Papadopoulos to Jane Downing

³⁴ See Exhibit 12, February 5, 1998 memorandum from David Pincumbe to Jane Downing & George Papadopoulos

phosphorus limit. Inexplicably, the agency justified the limit as technology-based and as consistent with Best Professional Judgment citing CWA Sec. 402(a)(1) & 40 CFR 125.3(c)(2).³⁵

By April 30, 1998, EPA had fashioned a draft Wayland Business Center permit and accompanying Fact Sheet that described, among other things, the permit limits and non-point source watershed trading scheme developed to justify the phosphorus nutrient limit.³⁶ The Fact Sheet stated that the permit was for: a discharge of treated sanitary wastewater from a facility that services an office building; the outfall flows through a wetland area and into the Sudbury River; and the Sudbury River does not currently meet its in-stream water quality standard for nutrients.³⁷ The Fact Sheet went on to explain that the applicant had completed an evaluation of alternatives to discharging to the River and had concluded that “there is no other feasible alternative.”³⁸ Apparently, the only alternative considered was an on-site groundwater discharge that “was deemed infeasible due to a high water table in the area.”³⁹ [Note: We did not come across such an evaluation during our EPA file review on October 31, 2008].

The treatment plant would treat up to 45,000 gpd from the Wayland Business Center and, if the 3:1 non-point source phosphorus trading mechanism were employed, an upgraded facility could treat “sanitary flows” from residences and/or businesses for a total flow of up to 65,000 gpd.⁴⁰

The final Wayland Business Center five-year permit was issued on September 4, 1998, with an effective date of October 4, 1998. It specified that a prerequisite to allowance of the phosphorus trading mechanism was “reasonable assurance” that all parties would implement the conditions of the trade.⁴¹ The 1998 Permit contained a detailed compliance schedule but it does not appear that the conditions of the permit were satisfied. There is nothing in the record to indicate approval of a final phosphorus

³⁵ Exhibit 10, April 30, 1998 EPA Fact Sheet for Wayland Business Center, LLC, NPDES Permit No. MA0039853 p. 3

³⁶ See Exhibit 10, April 30, 1998 EPA Fact Sheet for Wayland Business Center, LLC, NPDES Permit No. MA0039853

³⁷ 1998 Fact Sheet pp. 1 & 3

³⁸ 1998 Fact Sheet p. 5

³⁹ 1998 Fact Sheet p. 5

⁴⁰ 1998 Fact Sheet p.3

⁴¹ 1998 Fact Sheet p. 6; 1998 NPDES Permit p. 5

reduction plan nor is there evidence that an approved plan was ever implemented. Annual progress reports were not submitted and the record is devoid of any documentation that the required reduction of non-point source phosphorus loadings was accomplished by the October 4, 2000 compliance deadline or ever. In fact, EPA did not even begin to follow up on permit compliance until December 2004, more than a year after the five-year permit had expired.

2. Egregious Non-Compliance With Legal Requirements

It is clear from the administrative record that the initial September 4, 1998 NPDES Permit⁴² issued to the Wayland Business Center, and subsequently transferred to the Town of Wayland, granted permission to a “new discharger”. It is also clear from the applicable law and regulations that because this was a new discharger, all pollution controls necessary for meeting the permit’s performance standards must have been installed prior to commencement of the discharge. 40 CFR 122.29(d)(4). And, in any event, “[w]ithin the shortest feasible time (not to exceed 90 days), the owner or operator must meet all permit conditions.” 40 CFR 122.30(d)(4). We believe that adherence to this regulatory mandate is crucial, especially for those conditions that are imposed for the protection of state water quality standards.

In the case of the September 4, 1998 Permit, the agency allowed two years for permit conditions to be met and even then, when the compliance deadline had passed, did nothing to assure that water quality in the Sudbury River would not be further degraded. Throughout the process of permitting this new discharger, there is no evidence of a real desire to adhere to [there is evidence of a desire to circumvent?] the CWA regulatory scheme or of regulatory follow through. Perhaps this was and continues to be the case because external pressures supplanted the normal regulatory deliberative process.

III. The September 4, 1998 Permit Expired and A New Application Was Not Timely Filed.

EPA regulations provide that an expiring NPDES permit continues in effect if a complete and timely application has been submitted to the agency prior to the expiration

⁴² September 4, 1998 NPDES Permit

of the existing permit. 40 CFR 122.21(d)(1) & 40 CFR 122.21(e). In order to take the guess work out of the application process, EPA regulations clearly state that all applications shall be reviewed for completeness and an application is considered to be effective only on and after the date that EPA notifies the applicant that the application is complete. 40 CFR 122.21(e) & 40 CFR 124.3(f).

The September 4, 1998 NPDES Permit was due to expire as of October 4, 2003. An incomplete renewal application was submitted on or about April 9, 2003⁴³, after the 180 day window for filing such applications had already closed. Nevertheless, EPA sent a letter to the applicant granting a 30-day extension, until August 22, 2003, for receipt of the missing application materials.⁴⁴ The remainder of the requisite application forms were not submitted by the applicant until on or about December 5, 2003⁴⁵ – two months after the NPDES Permit had already expired. By letter dated February 11, 2004, EPA informed the applicant that the application appeared to be complete and erroneously stated that “[t]he conditions of the present permit will continue in force until a new permit is issued and becomes effective since timely and complete application was submitted.”⁴⁶

In fact, the NPDES permit had expired on October 4, 2003 and the 40 CFR 122.6(a)(1) permit shield did not attach because the applicant had not submitted a complete application before the permit’s expiration date. As clearly stated, at 40 CFR 122.21(d)(1), “The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.” The treatment plant has been operating without a valid permit for more than five years.

IV. Whether or Not The September 4, 1998 Permit Expired, The Application For This New Permit Must Be Reviewed As One For A New Discharger.

Even after an arguably plausible scenario had been devised for allowing this facility to commence discharging to eutrophied waters of the United States, neither the Permittee nor EPA sought to assure that the phosphorus trading mechanism as designed was ever implemented. Recall that for the September 4, 1998 Permit, EPA had relied on

⁴³ See Exhibit 13, Undated 2006 Reissuance Fact Sheet p. 1

⁴⁴ See Exhibit 28, July 21, 2003 letter from EPA to Jeffrey Ritter, WWMD

⁴⁵ See Exhibit 13, Undated 2006 Reissuance Fact Sheet p. 1

⁴⁶ See Exhibit 29, February 11, 2004 letter from EPA to Lana Carlsson-Irwin

the trading mechanism as justification for the phosphorus limit. In its Response To Comments on the draft of that permit, EPA stated, at p. 5,

“Finally and most importantly, EPA and MA DEP decided on this limit only because this permit contains a watershed trading requirement which will result in a net decrease of phosphorus entering this watershed during the life of the permit.”⁴⁷

In fact, an overwhelming number of the conditions imposed in the September 4, 1998 Permit were not complied with. Apparently, EPA became cognizant of that fact when it began reviewing the file during preparation for issuance of the September 30, 2008 Permit.⁴⁸ The Phosphorus Optimization Study, required to be submitted by September 4, 2000, was never undertaken.⁴⁹ There never was an approved final draft plan for accomplishing phosphorus trading, so such a plan was never implemented. There is nothing in place to assure that any sewer system users must continue to remain on the system. No annual progress reports were submitted concerning phosphorus trading. There is absolutely no indication in the administrative record that the required reduction of non-point source phosphorus loadings has ever been attempted or achieved.

The underlying precept for issuing the 1998 new discharger permit has not been followed. Phosphorus reductions have not been shown. And, at this point, we are back to square one.

The pending application must be treated as one for a “new discharger”. A comprehensive alternatives analysis must be performed to assess whether there are better alternatives for sewage disposal than surface water discharge. In addition to the Wayland Business Center, there are apparently only 26 other small users of the treatment system. Of those, only 5 are residences.⁵⁰ The rest are commercial users. It may be more

⁴⁷ See Exhibit 30, Undated Response To Comments on the draft of the September 4, 1998 NPDES Permit

⁴⁸ See Exhibit 31, December 1, 2004 letter from EPA to Lana Carlsson-Irwin; December 21, 2004 letter from Robin Neas, EPA to Wayland Wastewater Management District (WWMD) apparently concerning missing reports required to be submitted per the 1998 NPDES Permit [Note: that letter was missing from the files we reviewed at EPA on October 31, 2008 but is mentioned in subsequent correspondence]; Exhibit 32, December 23, 2004 letter from WWMD to EPA; etc.

⁴⁹ See Exhibit 33, January 31, 2005 letter from Aquarion Services Company to EPA

⁵⁰ With regard to the original 1998 claim that phosphorus reductions would be achieved by tying in homes with falling septic systems, it is interesting to note that there is no information in the record to indicate whether any of these residences fell into that category.

economical, and certainly better for the watershed and the Sudbury River, for this nutrient-rich wastewater to be disposed of by another means.

In addition, both historical and current effluent data for this permit, updated from 2004 through the present, must be reviewed and evaluated. Instream monitoring data also must be updated to the present.⁵¹ The evaluation must take into account that, even after more than ten years, flows through this treatment plant still only represent 20% of the allowed monthly average.

Before any new NPDES permit can issue, it first must be shown definitively that: 1) the discharge can be accommodated under the applicable water quality standards; 2) all pollution controls necessary for meeting performance standards will be installed prior to commencement of the discharge; and 3) there is no other alternative to the discharge.

It is clear from the administrative record that the initial September 4, 1998 NPDES Permit⁵² issued to the Wayland Business Center, and subsequently transferred to the Town of Wayland, granted permission to a “new discharger”. It is also clear from the applicable law and regulations that because this was a new discharger, all pollution controls necessary for meeting the permit’s performance standards must have been installed prior to commencement of the discharge. 40 CFR 122.29(d)(4). And, in any event, “[w]ithin the shortest feasible time (not to exceed 90 days), the owner or operator must meet all permit conditions.” 40 CFR 122.30(d)(4). We believe that adherence to this regulatory mandate is crucial, especially for those conditions that are imposed for the protection of state water quality standards.

In the case of the September 4, 1998 Permit, the agency allowed two years for permit conditions to be met and even then, when the compliance deadline had passed, did nothing to assure that water quality in the Sudbury River would not be further degraded. Throughout the process of permitting this new discharger, there is no evidence of a real desire to adhere to the CWA regulatory scheme or of regulatory follow through. Perhaps this was and continues to be the case because external pressures supplanted the normal regulatory deliberative process.

⁵¹ The last data looked at and relied on by EPA covered a period only through November 2004. See Exhibit 13, Undated 2006 Reissuance Fact Sheet Tables 1 & 2

⁵² See Exhibit 15, September 4, 1998 NPDES Permit

JURISDICTIONAL BASIS FOR MR. ARNOLD'S APPEAL

Any person who filed comments on a draft NPDES permit may petition the Board for review of its terms and conditions. 40 C.F.R. §124.19(a). By a letter dated April 11, 2006,⁵³ hereby incorporated in its entirety by reference, Mr. Arnold filed comments on the draft permit raising the issues presented in this petition. In addition to Mr. Arnold, the following persons submitted comments: Linda L. Segal of Wayland; John Davenport and Carol Lee Rawn of the Conservation Law Foundation, Boston, MA; Jamie Fosburgh, Director, River Program, US Department of the Interior, National Park Service, Northeast Region, Boston MA; Sarah R. Newbury of Wayland; and Prescott and Margery Baston of Wayland; among others.

Issues commented upon. Mr. Arnold's comments, along with comments from the parties identified above, collectively raise and support the issues presented in this Petition. For the Board's convenience, the following key issues raised below are listed here:

Objections based on new dischargers, new discharges and greatly increased flow:

- The Sudbury River is a "special resource water," federally designated as "Wild and Scenic." Any discharge must be evaluated to ensure that "no NEW or INCREASED discharges that result in lower water quality in the Special Resource Water may be allowed...."
- The Permit is intended for new use and new dischargers that should be understood before effluent limits are set. New discharges and increased flow should be taken into account now.
- Facility violates 1996 statute prohibiting new discharges to the Sudbury River to support new development; agencies should curtail NEW or increased discharges to the River.
- The Permit assumes flow capacity based on old permits for another user with different effluent.
- Permit should only allow volume used in preceding decade: approximately 10,000 gpd. The "design flow" capacity has been unused for at least a decade; the new users, including large number of residential units, makes this a different situation than existed for previous permits that warrants more careful review.

⁵³ See April 11, 2006 letter and attachments, attached as Exhibit 6.

- Three large development projects have been permitted or proposed for town center, all of which expect to connect to the plant and discharge to Sudbury River.
- Large numbers of new residential users (unlike general office buildings such as the Wayland Business Center) will discharge higher volumes of phosphorus year-round.
- Added pollution including phosphorus from stormwater runoff from commercial and residential developments served by treatment plant is a concern.
- There should be no increase in flow from this discharge that exacerbates water quality problems.
- Maintaining water quality is necessary to achieve the goals of federal protection programs.
- Alternatives (water conservation, low impact development, groundwater discharge and or treated wastewater irrigation) should be evaluated as ways to accommodate more flow without increasing a discharge to the river.

Objections based on concerns about water quality and eutrophication:

- This sixteen-mile segment of the Sudbury River, including upstream and downstream of the (current) discharge point all the way down stream into the Concord River, is already eutrophic.
- Phosphorus contributes to eutrophication.

Objections relating to loss of recreational use and aesthetics:

- This part of the Sudbury is a popular recreational destination, especially because of the surrounding national wildlife refuge.
- Algae, duckweed, and other non-native eutrophic plants prevent or detract from kayaking or canoeing.

Objections relating to regulatory requirements:

- Federal regulations require the permit to contain water quality based total phosphorus limits to ensure water quality standards are achieved.

- Instream phosphorus concentrations far exceed EPA-cited criteria.
- Based on EPA guidance documents, the 0.2 mg/l phosphorus effluent limit is too high by an order of magnitude; limit should be 0.02 mg/l.
- EPA improperly failed to apply its own criteria.
- Technology-based summer and winter limits will contribute to existing eutrophication problems and use impairments in both Sudbury and Concord Rivers.
- Where water quality standards (including narrative standards) are not met, limits must be stricter than technology based limits; costs may not be considered.
- Recent permits in this watershed have provided phosphorus limits of 0.1 mg/l. Limits should be “similar to the limits imposed in the Hop Brook.” (Marlborough Easterly plant.)
- Massachusetts antidegradation requirements were not satisfied.
- A more protective phosphorus limit should be set for the cold months. Winter effects of phosphorus in sediments of slow-moving river should be studied.
- Commercially available technologies can achieve 0.02 mg/l limit.
- No permit should be issued where imposition of conditions cannot ensure compliance with the applicable water quality standards of all affected States.
- This river should be on CSA § 303(d) list for nutrients and a TMDL should be developed as previously requested. This should occur before discharge into the river is allowed.

Objections relating to failure to assess impacts of, and on, river sediments.

- With no analysis of the effect of bottom sediments, it cannot be known that the proposed average monthly limit of 0.2 mg/l will result in the attainment of water quality standards.

- Sediment flux can be expected to contribute to the flux of phosphorus in the water; river floods frequently – every month but July and August..
- Environmental impacts of discharging to the river should be assessed.
- River bottom sediments are laden with mercury.
- It must be known how installation of any equipment related to any in-river discharge system will disturb sediments.

Objections relating to ecological, aesthetic and recreational impacts:

- Impacts to the wetland, including impacts to flora and fauna from the continuing discharge there should be assessed and made available, before deciding where to place discharge pipe.
- Discharge in wetlands is adjacent to recently restored wetlands.
- Impacts of in-river discharge system to recreational and scenic river values should be evaluated.
-

Objection to remaining in system if costly improvements are required:

- Existing users are considering leaving the system due to cost considerations.

Accordingly, Mr. Arnold complies with the requirement that the issues raised in the petition for review were raised below, in accordance with 40 C.F.R. § 124.19(a). It should be noted that the Fact Sheet mis-stated the procedural posture of the application, implying that a complete application had been received and that the permit had not expired. A final application was not in fact received until February 11, 2004; the December 2003 date in the Fact Sheet was erroneous. Commenters were entitled to rely on the accuracy of the facts set forth in the Fact Sheet to know whether the Permit had expired as a matter of law.

Timing. A Petition for Review must be received by the Board within thirty days of the service of a final NPDES permit. 40 C.F.R. § 124.19(a). As explained in an Initial Petition that Mr. Arnold protectively filed with the Board on November 17, 2008, EPA mailed the Permit packet to Mr. Arnold by certified mail postmarked on October 16,

2008, two weeks after purportedly issuing the Final Permit on September 30, 2008.⁵⁴ In a transmittal letter dated October 15, 2008, EPA acknowledged and apologized for its error in not distributing the Permit to Mr. Arnold and four other commenters in a timely way. As to the time for appeal, in that letter, Chief of the Region's Municipal Permits Branch, Roger Janson, stated: "Please note that appeals of NPDES permits must be filed with the Environmental Appeals Board within thirty days of receipt of notice. (40 CFR 24.19(a))." [Emphasis added.]⁵⁵ Because Mr. Arnold was abroad from October 15 to November 3, the US Postal Service made several attempts to deliver the certified letter, finally succeeding on October 29, 2008, as eventually established by the copy of the signed receipt.⁵⁶ (EPA provided this receipt after Mr. Arnold's Initial Petition was submitted on November 17, 2008, the putative deadline based on advice from EPA counsel.) Assuming Mr. Arnold received the permit pack on October 29, 2008, Mr. Arnold's deadline to appeal the permit is November 29, 2008.⁵⁷ Because the US Postal Service has certified the exact date of receipt of service, the Board need not decide whether any deadline should be extended for good cause. (If an extension is deemed necessary for any reason, it is hereby requested based on EPA's failures to communicate properly.) Mr. Arnold had no reason to expect the Permit at this specific juncture, two and one-half years after he submitted his comments, and no obligation to provide a means to accept delivery. Indeed, if the Permit had been mailed when purportedly issued and actually mailed to several other commenters, Mr. Arnold would likely have received it on time.

The confused timing of the Permit's issuance continues EPA's history of consistently flawed communications with the public about the Permit. (I may be

⁵⁴ See Exhibit 34, image of EPA mailing envelope addressed to Mr. Arnold with notations of attempted deliveries.

⁵⁵ See Exhibit 35, October 15, 2008, EPA letter from Chief Roger Janson reading in part: "Dear Sir/Madam: It has come to our attention that you were not notified of the issuance of theNPDES Permit for the Wayland, MA wastewater treatment plant which was signed on September 30, 2008.Because you submitted written comments on the draft permit, you should have been promptly notified. We apologize for the delay and are hereby providing the required notice."

⁵⁶ See Exhibit 37, image of receipt and postal record provided by EPA, showing October 29, 2008 delivery of certified letter containing permit.

⁵⁷ Because of Thanksgiving, the deadline is the same whether counting commences on the day Mr. Arnold received the packet or the day after he received the packet.

surmised that internal ambivalence about the proceedings influenced EPA's performance of its notice requirements.) In 2006, the Draft Permit (purportedly issued February 15, 2006) was not made available on EPA's website in a timely way; when EPA realized that omission, EPA did extend the public comment period by a month. Then, in letters dated April 11 and 12, 2006, Mr. Arnold and Ms. Segal, each requested a public hearing.⁵⁸ More than **nine** months later, in letters dated January 16, 2007 and January 19, 2007, respectively, Mr. Arnold and Ms. Segal each received letters presenting a weak excuse for refusing to hold a public hearing: "Unfortunately, your request for a public hearing was not immediately noticed and, obviously has not been addressed in a timely manner. It is prudent, at this point, to formally deny your request for a public hearing."⁵⁹ It is hard to imagine what prudence has to do with deciding not to hold a hearing on an issue as significant as continued pollution of a Wild and Scenic River, other than avoiding embarrassment. (Notably, Mr. Fosburgh, of the National Park Service, had also counseled the usefulness of more public process.) The belated refusal might make a modicum of sense if the Permit's development had been nearly complete in January 2007, so that it was about to be issued. But the final permit was not "issued" until September 30, 2008 (at the earliest): one and $\frac{3}{4}$ years -- 21 months -- after the letters refusing a public forum were sent and two and $\frac{1}{2}$ years after the requests. Confusion as to the date of service of the Permit is part of a continuing pattern that has frustrated public involvement in the Permit's development and issuance.

As to substance, we have demonstrated above that the Permit is a new permit rather than a "re-issued" permit, and is subject to even more stringent requirements both as to initial information submitted and as to whether it can even be issued. We have further demonstrated that, if the Board eventually deems the Permit to be properly "re-issued," it nevertheless contains findings of fact of conclusions of law that are clearly erroneous, and includes exercise of discretion and important policy implementation which the Board should review. 40 CFR § 124.19(a).

⁵⁸ See Exhibit 38, April 12, 2006 letter from Linda Segal to EPA seeking public hearing; *see also* Exhibit 6.

⁵⁹ See Exhibit 39, January 19, 2007 EPA letter to Segal from Stephen Perkins, refusing public hearing.

Specifically, Mr. Arnold will demonstrate the following: The administrative record conclusively establishes that the Permit is a new permit subject to legal restrictions affecting new permits. In the alternative, he will show that the 0.2 mg/l (April – October) and the 0.5 mg/l (November – March) total phosphorus limits will contribute additional phosphorus to a eutrophic water body. Therefore, on its face, the Permit does not ensure compliance with water quality standards. Instead, the Permit relies on the uncertain prospect of future improvements in water quality that may or may not occur, only after a massive, long-term retrofit of a wastewater treatment plant in Marlborough that discharges to a major tributary of the Sudbury slightly upstream of the discharge point called Hop Brook.

By virtue of EPA's failure to treat this Permittee's application as if it were for a new permit, and of the defects in the Permit as issued, the Sudbury River will continue to suffer eutrophication due to the wastewater discharges by this Permittee. Consequently, the outcome of this appeal will have an enormous and direct impact on the health, smell and human enjoyment of the Sudbury River. The appeal involves not only clear errors of fact and law, but important matters of agency discretionary policy, including EPA's decision to ignore non-compliance with, and expiration of, a former industrial user permit, and to treat this Permit as a re-issuance. EPA also failed to include conditions in the Permit, such as stringent phosphorus effluent limits, that would ensure that the receiving waters will comply with water quality standards. Finally, the Permit fails to impose any compliance schedule that would ensure compliance with water quality standards or impose stricter limits if the water quality does not improve.

ARGUMENT

The September 30, 2008 Permit violates the CWA for two reasons. It is a "new" permit that requires stricter showings and performance on the Permittee's behalf, as discussed above, and may not cause or contribute to violation of water-quality standards.

If it is deemed to be lawfully "re-issued," the Permit, on its face and in its import, violates the Clean Water Act. It does not include conditions to ensure compliance that the receiving waters will meet applicable water quality standards set forth in the following section.

As a matter of public policy, the Permit should be remanded and quashed, requiring a compliance order and schedule to find and evaluate alternatives to surface water discharge for the current 7,000 – 10,000 gal. per day flow.

Relevant Federal Clean Water Act Requirements

The federal Clean Water Act (CWA) requires that the Permit contain “any more stringent limitations ... necessary to meet water quality standards ... or ... to implement any applicable water quality standard established pursuant to this chapter.” 33 U.S.C. § 1311(b)(1)(C). To implement this statutory mandate, CWA regulations state: “No permit shall be issued: ... (i) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards.” 40 CFR § 122.4(i).⁶⁰ The federal rules further provide: “No permit may be issued: (d) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states.” 40 C.F.R. §122.4(d); *see also* 40 C.F.R. §122.4(a) (No NPDES permit may be issued if its conditions do not provide for compliance with the applicable requirements of the CWA and the regulations thereunder). The CWA regulations further state that if a permit is to be issued for a discharge that causes or contributes to water quality violations, conditions must be included in the permit to achieve water quality standards and/or eliminate contributions to violations of water quality standards. 40 C.F.R. §122.44(d)(1).

⁶⁰ 40 CFR 122.4(i) continues to explain how a new source can be permitted when there a total maximum daily load (TMDL) has been established for the receiving waters: “The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that: (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. The Director may waive the submission of information by the new source or new discharger required by paragraph (i) of this section if the Director determines that the Director already has adequate information to evaluate the request. An explanation of the development of limitations to meet the criteria of this paragraph (i)(2) is to be included in the fact sheet to the permit under §124.56(b)(1) of this chapter.

Relevant Massachusetts Surface Water Quality Standards.

The Massachusetts Surface Water Quality Standards set forth a narrative water quality standard regarding nutrients: “Unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses....” 314 CMR 4.05(5)(c). Class B waters (warm water fisheries such as the Sudbury River), “are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth, and other critical functions, and for primary and secondary contact recreation.... Class B waters shall be suitable for irrigation and other agricultural uses and compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.” 314 CMR 405(3)(b). The narrative standard further provides:

(a) Aesthetics — All surface waters shall be free from pollutants in concentrations or combinations that settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life.

(b) Bottom Pollutants or Alterations — All surface waters shall be free from pollutants in concentrations or combinations or from alterations that adversely affect the physical or chemical nature of the bottom, interfere with the propagation of fish or shellfish, or adversely affect populations of non-mobile or sessile benthic organisms.

(c) Nutrients — Shall not exceed the site-specific limits necessary to control accelerated or cultural eutrophication 314 CMR 4.05(5)(a)-(c.)

Massachusetts Surface Water Quality Standards also include strict antidegradation provisions at 314 CMR 4.04. No matter what the water body classification, “[i]n all cases existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” 314 CMR 4.04(1). Massachusetts also protects “Special Resource Waters:”

(4) Protection of Special Resource Waters. Certain waters of exceptional significance, such as waters in national or state parks and wildlife refuges, may be designated by the Department in 314 CMR 4.06 as special resource waters (SRWs). The quality of these waters shall be maintained and protected so that no new or increased discharge and no new or increased discharge to a tributary to a SRW that would result in lower water quality in the SRW may be allowed, except where:

(a) the discharge results in temporary and short term changes in the quality of the SRW, provided that the discharge does not permanently lower water quality or result in water quality lower than necessary to protect uses; and (b) an authorization is granted pursuant to 314 CMR 4.04(5).

I. Under the Clean Water Act and implementing regulations, EPA may not issue a new permit that would add more phosphorus to the Sudbury River.

As demonstrated at length above, and as indicated by several commenters, the instant permit and the dischargers are “new.” According to EPA regulations: “No permit shall be issued: ... (i) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards.” 40 CFR § 122.4(i). This provision does provide opportunity to obtain a permit for a new discharge where a “Total Maximum Daily Load” (“TMDL”) has been developed, sufficient load allocations remain to accommodate the new discharge, and where there are compliance schedules imposed on existing dischargers designed to bring the segment into compliance.⁶¹ Where, as in the case of Wayland, no TMDL exists, and the impairment of the receiving waters due to phosphorus loading is uncontested, the permit cannot issue. *See e.g., In Re: Cities of Annandale and Maple Lake NPDES/SDS Permit Issuance*, 702 N.W.2d 768, 776 (2005) (distinguishing from *Arkansas*, *infra*: EPA made an error of law in issuing a new permit that would allow discharge of quantifiably measurable amounts of phosphorus into impaired waters despite proposed net decrease based on eliminating other sources).

⁶¹ 40 CFR 122.4(i) continues to explain how a new source can be permitted when there a total maximum daily load (TMDL) has been established for the receiving waters: The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that: (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into thp. segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. The Director may waive the submission of information by the new source or new discharger required by paragraph (i) of this section if the Director determines thp. the Director already has adequate information to evaluate the request. An explanation of the development of limitations to meet the criteria of this paragraph (i)(2) is to be included in the fact sheet to the permit under §124.56(b)(1) of this chapter.

The Wayland Permit differs from that in Arkansas v. Oklahoma, 503 U.S. 91, 112 S.Ct. 1046 (1992), where Oklahoma sought to enforce its water quality standards by seeking to quash a permit given to an Arkansas facility that would add to impaired conditions downstream in Oklahoma. In that case, the Supreme Court, allowed the permit to issue, deferring to the EPA's finding that the Oklahoma standards would only be violated if the "discharge effected an 'actually detectable or measurable' change in water quality." *Id.*, at 110-111. By contrast, in the Wayland Permit documentation, EPA itself establishes that the discharge will add to phosphorus in the river, even if EPA says such contribution will be "very small" or "minimal."⁶² The Interior Department, in a petition filed separately, has established that, using EPA's assumptions, the Permit would result in 35 pounds of phosphorus loading in a year. Thirty-five pounds is "detectable."

Applying Section 122.4(i) to quash the Permit would not amount to a categorical ban on new discharges. Rather, EPA could look to 40 CFR § 122.44(d) to begin a process to develop effluent limits appropriate for this segment of the Sudbury River.⁶³ In

⁶² See Exhibit 13, RTC, *passim*.

⁶³ (d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to: (1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. (i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged p. a level which will cause, have the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water. (ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

...

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant thp. is present in an effluent p. a concentration thp. causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options: (A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be

Friends of Pinto Creek v. US E.P.A., 505 F.3d 1007 (9th Cir. 2007), the Ninth Circuit construed that portion of Section 122.4(i) that applies when there is a TMDL. The Court ruled that EPA could not issue a new permit that caused or contributed to water quality violations unless it allocated the offending effluent loads among all dischargers and sources and set up enforceable schedules so that the receiving waters would come into compliance. By analogy, EPA could establish an enforceable conditions, including phosphorus effluent loading allocation and limits, so that the agency could issue a new permit that did not cause or contribute to water quality violations.

II. Under the Clean Water Act, EPA cannot issue a permit without conditions that ensure that the receiving waters comply with Massachusetts's Surface Water Quality Regulations.

A. The Final Permit's 0.2 mg/l (April-October) and 0.5 mg/l (November – March) total phosphorus effluent limits are not stringent enough to meet water quality standards.

Mr. Arnold (and other commenters) assert that certain conditions included in the Permit, and other conditions that the Region and DEP omitted from the Permit, violate the applicable requirements of the Federal Clean Water Act, 33 U.S.C. § 1251 *et seq.* (“CWA”), the Massachusetts Clean Water Act, M.G.L. c.21, § 26 *et seq.*, (“Act”) and their implementing regulations. These conditions pertain primarily to the discharge of phosphorus under the Permit. In short, the Permit allows the Permittee to discharge phosphorus at levels that will contribute to and exacerbate existing severe eutrophication of the Sudbury River.

derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or (B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or (C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided: (1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation; (2) The fact sheet required by §124.56 sets forth the basis for the limit, including a finding thp. compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards; (3) The permit requires all effluent and ambient monitoring necessary to show thp. during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards.

B. EPA's Permit documents admit violations of the Clean Water Act.

1. Violations appear on the face of the decision documents.

The Region's Response to Comments admits to facts that show it has granted the Permit in violation of the CWA. Specifically, EPA states that the discharge will contribute to the phosphorus concentrations in the Sudbury River. Response B1, cited in response to every commenter mentioning eutrophication, states:

Given the evidence that the receiving water is eutrophic, EPA included a limitation based on Highest and Best Practical Treatment which MassDEP has defined as a monthly average limit of 02 mg/l total phosphorus. This limit will result in the Wayland discharge making a very small contribution to the phosphorus concentration in the Sudbury River. Using the calculated dilution factor of 78.1, a discharge of 200 ug/l total phosphorus (0.2 mg/l) would result in an instream concentration of only 2.6 ug/l ($200 \text{ ug/l} / 78.1$) assuming zero in the background. If a background concentration of 83 ug/l is assumed (the average upstream concentration, as noted in the fact sheet), the resulting instream concentration downstream of the discharge would be only 84.5 ug/l, as calculated below, an increase of only 1.5 ug/l.⁶⁴

The error of relying on the minimal technology-based standard "defined" by the MassDEP will be discussed below. First, it must be stressed that the Region admits both here and pervasively throughout the Fact Sheet and the Response to Comments that the river is eutrophic and that the discharge will actually contribute more eutrophying phosphorus to the river. If the river is eutrophic, no permit can be issued which does not impose conditions that ensure compliance with the applicable water quality requirements. According to EPA, the Permit will exacerbate rather than diminish the eutrophic conditions that violate Massachusetts water quality standards.

Although EPA characterizes the addition of 2.6 ug/l (or 0.0026 mg/l) phosphorus as "a very small contribution," the CWA requires imposition of conditions that prevent worsening or even maintenance of impaired water quality. In fact, even accepting EPA's calculation (for argument's sake), the Permit's contribution to the phosphorus in the river is not "very small" or "minimal" or "not appreciable" when compared to the criteria

⁶⁴ See Exhibit 14, RTC, pp. 3-4.

referenced by EPA. EPA cites the 1986 Quality Criteria for Water (the so-called “Gold Book”) that recommends that “[i]n-stream phosphorus concentrations not exceed 0.05 mg/l in any stream entering a lake or reservoir, 0.1 mg/l for any stream not discharging directly to lakes or impoundments, and 0.025 mg/l within the lake or reservoir.⁶⁵ EPA also cites the “Ecoregional Nutrient Criteria” for Ecoregion XIV that recommends a total phosphorus criterion of 24 ug/l (0.024mg/l) and a paper by Mitchell, Liebman, Ramseyer, and Card, who, in conjunction with the New England States, developed potential New England-wide nutrient criterion for instream total phosphorus concentrations of 0.020 – 0.022 mg/l (20-22 ug/l) for New England streams.⁶⁶

Given the acknowledged lake-like characteristics of this segment of the river (per EPA above, an “elongated lake”), 2.6 ug/l is a significant fraction (10% or more) of the most relevant criteria cited by EPA for instream phosphorus: 24 ug/l per the ecoregional criteria, and 20-22 ug/l per Mitchell, *et al.* Even criteria in the out-dated Gold Book for streams entering lakes (50 ug/l), or for lakes (25 ug/l) are in a comparable range.

According to EPA, the background average instream concentration of the Sudbury at the discharge point is 83 ug/l,⁶⁷ far exceeding all of these criteria, as is consistent with the river’s well-documented eutrophication. Additional loading of 2.6 ug/l phosphorus would increase the already violating instream concentration by 3%, again -- an “appreciable” contribution.

3. EPA uses reference criteria arbitrarily and capriciously.

The analysis on which the Permit’s phosphorus limits are based is not rational. Permits recently issued for similarly situated rivers and discharges were based on markedly different analyses (despite similar facts and similar scientific references), and resulted in much lower summer phosphorus limits of between 0.1-0.12 mg/l.

The Fact Sheet and draft 2008 NPDES Permit No. MA0102598 for the Charles River Pollution Control District in Medway demonstrates EPA’s unreasonably inconsistent, arbitrary and capricious application of criteria. Referring to the Ecoregion XIV, Eastern Coastal Plains, in which both the Sudbury and the Charles Rivers lie, EPA

⁶⁵ See Exhibit 14, RTC p. 3.

⁶⁶ *Id.*

⁶⁷ See Exhibit 14, RTC, p. 4.

states: “The total phosphorus criterion for this sub-ecoregion, found in Ambient Water Quality Criteria Recommendations, Information Supporting the Development of State and Tribal Nutrient Criteria, Rivers and Streams in Ecoregion XIV (2000), is 24 ug/l (0.024 mg/l).”⁶⁸ The Fact Sheet summarizes the range of phosphorus concentrations upstream of the outfall in Medway as “between 0.0386 to 0.0836 mg/l” and downstream as “between 0.043 to 0.0717 mg/l”. Thus, the instream concentrations of phosphorus in the Sudbury – 0.083 mg/l (recorded by EPA as an average rather than a range) is as high as, and most likely occasionally higher, than the instream phosphorus concentrations in the Charles that prompted EPA to impose a monthly average phosphorus limit of 0.12 mg/l for this permit. As noted above, the Wayland Permittee’s monthly findings for phosphorus downstream of the discharge was actually 0.1 mg/l.

In addition to the Medway permit, EPA has imposed similarly low summer phosphorus limits based on similar reasoning and analysis in each of the following permits:

NPDES Permit No. MA0101036, North Attleboro WWTF⁶⁹

NPDES Permit No. MA0102253, MCI Norfolk Water Pollution Control Facility⁷⁰

NPDES Permit No. MA0100480, Marlborough Westerly Waste Treatment Works⁷¹

NPDES Permit No. MA0101681, City of Pittsfield⁷²

By way of contrast, in the Wayland Permit, EPA declined to use the 0.024 instream phosphorus criterion explicitly applied in Medway and Pittsfield, as their fact sheets demonstrate.⁷³ Instead, EPA avowedly responded to the presence of cultural eutrophication by including “a limitation based on the Highest and Best Practical

⁶⁸ See Exhibit 40, 2008 EPA Fact Sheet and Permit for Charles River Pollution Control District, Medway, NPDES Permit No MA0102598 Medway 2006 Fact Sheet, p. 8

⁶⁹ See Exhibit 41, April 1, 2008, North Attleborough NPDES Permit No. MA0101036.

⁷⁰ See Exhibit 42, undated MCI Norfolk WPCF, Draft NPDES Permit No MA0102253.

⁷¹ See Exhibit 43, October 19, 2006, Marlborough Easterly NPDES Permit No. MA0100498 and Draft Marlborough Westerly NPDES Permit No. MA0100480..

⁷² See Exhibit 44, December 2008 EPA Fact Sheet for City of Pittsfield NPDES Permit No. MA0101681.

⁷³ See Exhibit 40 Medway Fact Sheet p.11-12; See Exhibit 44, Pittsfield Fact Sheet p. 14.

Treatment, which MassDEP has defined as a monthly average limit of 0.2 mg/l total phosphorus.”⁷⁴

3. Technology-based limit violates CWA.

The Massachusetts technology-based standard of Highest and Best Practical Treatment cannot apply where its use will not achieve water quality standards.

According to 314 CMR 4.02, Highest and Best Practical Treatment (HBPT) means:

The best practicable waste treatment technology for publicly owned treatment works that is the most appropriate means available on a regional basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. HBPT effluent limitation guidelines reflect the best performance technologies for a particular pollutant or group of pollutants that are economically achievable.⁷⁵ [Emphasis added.]

The Massachusetts Surface Water Discharge Permit Program regulations, 314 CMF 3.00, *et seq.*, elucidate the meaning of HBPT:

For the purposes of establishing technology based effluent limitations pursuant to 314 CMR 3.11(5), 4.04(5) and 405(5)(c), HBPT means the technology based standard of “Best Available Technology Economically Achievable (“BAT”) used by EPA under 33 U.S.C. 1251 *et seq.*, defined as the most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters and which represent the best existing performance technologies for a particular pollutant or group of pollutant that are economically achievable. 314 CMR 3.02. [Emphasis added.]

Technology-based standards for publicly owned treatment works are cost-based: by definition they must be “economically achievable.”

The Board recently reaffirmed that “cost and technological considerations are not appropriate factors to consider under the CWA when setting water quality-based effluent limits.” *In re: District of Columbia Water and Sewer Authority*, 13 E.A.D. __, Slip opinion, March 19, 2008, at pp. 45-46 (“DCWSA”). *See also In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 733-35 (EAB) (finding that EPA did not commit clear error by not considering cost of compliance when establishing effluent limits), *appeal dismissed per stipulation of parties*, No. 06-1817 (1st Cir. 2006); *see also In re City of*

⁷⁴ See Exhibit 14, RTC, p. 4.

⁷⁵ *Id.*

Moscow, 10 E.A.D. 135, 168 (EAB 2001); *In re New England Plating Co.*, 9 E.A.D. 726, 738 (EAB 2001) (finding that CWA does not make exceptions for cost or technological feasibility); *In re Town of Hopedale*, NPDES Appeal No. 00-04, at 24 (EAB Feb. 13, 2001) (Order Denying Review); *accord Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1163 (9th Cir. 1999) (holding that EPA is obligated to set water quality standards without regard to practicability); *U.S. Steel Corp. v. Train*, 556 F.2d 822, 838 (7th Cir. 1977) (finding “states are free to force technology” and “[i]f the states wish to achieve better water quality, they may [do so], even at the cost of economic and social dislocations”)).

It is worth noting, however, that cost-effective technologies have indeed been deployed since the DEP long ago started using 0.02 mg/l phosphorus as HBPT. (DEP’s adopted 0.2 mg/l as HBPT in 1998.)⁷⁶ The Town of Concord’s use of the so-called CoMag™ process has enabled it to achieve much lower phosphorus effluent concentrations than its 0.02 limit year-round. According to data submitted to the state, and available online, its monthly total phosphorus effluent concentrations have been steady at or below 0.01 mg/l for more than a year, only going as high as 0.02 mg/l once in since March of 2007.⁷⁷ Although cost is not an allowable consideration in setting effluent limits to achieve water quality standards, CoMag™ emerged in a 2006 study performed for the City of Keene, NH, as the least costly of three technologies capable of achieving 0.01-0.1 mg/l phosphorus effluent concentrations..⁷⁸ According to a recent report, in the SuAsCo Watershed, several of the so-called “Assabet Consortium” communities are planning to use CoMag or other updated technologies to meet their 0.1 mg/l summer phosphorus effluent limits

Indeed, EPA straightforwardly admits: “We concur that there are treatment technologies that can achieve more stringent effluent limitations than those in the permit.”⁷⁹

⁷⁶ Statement by Roger Janson of EPA in a public presentation at the Boston Bar Association on November 10, 2008

⁷⁷ See Data Summary for Concord MA, total Phosphorus 2005-2008, attached as Exhibit 45.

⁷⁸ See Table of proposed phosphorus removal technologies attached as Exhibit 46.

⁷⁹ See Exhibit 14, RTC, p. 14.

4. Wrongful reliance on future, remote, upstream improvements.

EPA offered another spurious justification for not imposing more protective phosphorus effluent limits in the Permit. In the Response to Comments, it stated:

We do agree that the background concentrations indicate impairments due to nutrients and would note that the East Marlborough Facility, which discharges to a tributary of the Sudbury River upstream of the Wayland facility has not yet attained its effluent limitation of 0.1. Once it has attained this limit there should be a reduction in background concentrations. Similarly, upstream communities must implement storm water best management practices (BMPs) as a condition of their storm water NPDES permits, which should also improve background conditions for nutrients.⁸⁰

As a practical matter, there is no way of knowing whether future improvements to this particular distant facility will affect water quality at the Wayland discharge point. Between the Marlborough Easterly facility and the Sudbury River, there are four major impoundments on Hop Brook (the referenced “tributary”), all of which have phosphorus-laden sediments that continue to cause severe eutrophication.⁸¹ According to recent modifications to the Marlborough Easterly NPDES permit, the plan to improve water quality in Hop Brook involves two highly contingent exercises: the two affected communities must enter legal accords to find feasible alternatives to stricter effluent limits to reduce phosphorus-related eutrophication, and to reduce non-point sources of orthophosphates.⁸² Moreover, the 0.1 mg limit set in that permit is higher than the recognized ecoregion criterion of 0.024 mg/l for instream phosphorus. Even more problematically, the deadline to construct the improved plant remains at least four and one-half years off.

In any event, the Board itself remanded the permit for this very same Marlborough facility precisely because of the Region’s manifest uncertainty that it would ensure achieving water quality standards. The Board objected to EPA’s reliance on “a mere possibility of compliance”, noting that such a possibility “does not ‘ensure’

⁸⁰ See Exhibit 14, RTC, p. 4.

⁸¹ See discussion of sediment in the Hop Brook ponds In re City of Marlborough, __ - 12 E.A.D. 235, 241 (2005).

⁸² See Exhibit, Marlborough Easterly Permit p. 3.

compliance” as required by 40 CFR § 122.4(d) which sets forth “the regulatory prohibition on issuing a permit ‘when imposition of conditions cannot *ensure* compliance with the applicable water quality requirements.’” *In re City of Marlborough, Massachusetts, Easterly Wastewater Treatment Facility*, 12 E.A.D.235, 250 (2005). [Emphasis in the original.]

5. TMDL not necessary to impose site-specific limits.

The CWA requires Massachusetts to list impaired waters that would require total maximum daily load (“TMDL”) evaluations of how much daily loading of given pollutants can be allowed while still enabling the waters to achieve quality requirements. Although the Sudbury River is listed as impaired for metals and pathogens, it is not listed as impaired due to excessive phosphorus. EPA compensates for the lack of 303(d) listing and related TMDLs in permits where water quality standards are not met, stating:

Whether or not the water segment is included on the 303(d) list for a particular pollutant, effluent limitations must be included for that pollutant if it is shown to have the reasonable potential to cause or contribute to exceedances of water quality standards....Establishing TMDLs for phosphorus have proven to be very difficult and complex, and MassDEP has very limited resources for conducting TMDLs. We believe that an equally constructive approach is to aggressively address phosphorus through NPDES permit reductions and stormwater requirements.⁸³

The federal CWA regulations also provide a process and options for determining a site specific effluent limit in the absence of a TMDL at 40 CFR § 122.44(d)(1)(vi) – “Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits....”

6. Permit failed to meet antidegradation requirement.

⁸³ RTC, Exhibit __ p. 14-15.

Because the Fact Sheet indicated directly to the contrary, commenters had no way to anticipate a particularly egregious error in the Permit: its failure to comply with Massachusetts's antidegradation rule. In the Fact Sheet accompanying the Draft Permit issued in 2006, EPA made a very strong statement regarding the applicability of the antidegradation provisions in the Massachusetts surface water quality standards set forth at 314 CMR 4.04. EPA said: "Given the over-allocation of nutrients of this watershed, and the existing eutrophic conditions, a flow increase at the Wayland WWTF would not be permitted unless approved after a rigorous antidegradation review."⁸⁴⁸⁵. Seemingly disingenuously, the Response to Comments states exactly the opposite: "MassDEP's antidegradation requirements regarding NPDES permits apply chiefly to new or increased discharges. The statement in the fact sheet regarding antidegradation is simply to note that this is not a new or increased discharge, and therefore does not require a detailed antidegradation review." EPA therefore admits that it has not performed a "rigorous antidegradation review." Recall that Mr. Arnold and other commenters noted not only that the discharges would be from new sources but also that they would result in greatly increased flow.⁸⁶ Any reader of the 2006 Fact Sheet would reasonably have expected that a "rigorous antidegradation review" would take place before the Permit issued. This change was not subjected to public comment.

DEP's primary antidegradation provision protects all existing uses: "In all cases existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 314 CMR 4.04(1). Certainly, the recreational value of boating must be protected from the increasing eutrophication shown in Mr. Arnold's photographs. The river should be swimmable and fishable. Similarly the scenic and ecological values cannot be allowed to continue to degrade by foul smelling and looking invasive plant growth.

Further, if any Massachusetts stream deserves protection as "Special Resource Waters," the Sudbury River does. Although it may not have been officially so designated, it flows for miles through a national wildlife refuge and other permanent open space. The Sudbury deserves the protection given to such waters: "The quality of

⁸⁴ Exhibit 13, 2006 Fact Sheet, , p. 5

⁸⁵ See Exhibit 14, RTC p. 4.

⁸⁶ See Exhibit 14, RTC p. 15.

these waters shall be maintained and protected so that no new or increased discharge ... may be allowed..." 314 CMR 404(4). The only exceptions to this prohibition are where the change is temporary or when it is officially authorized after a determination that "no less environmentally damaging alternative site for the ...method of elimination of the discharge is reasonably available or feasible." 314 CMR 4.04(5)(a)(2).

7. Massachusetts's certification does not control.

The Permit includes a certification required under Section 401 of the CWA from the DEP indicating that the Permit meets Massachusetts's surface water quality standards.⁸⁷ However, failure to achieve water quality standards trumps any such certification. In *DCWSA, supra*, the Board held: "...a permit issuer 'cannot rely exclusively on [a] section 401 certification, at least in a circumstance ... in which there is a body of information drawing the certification into question.' [*citations omitted.*] In this case, we will not allow the section 401 certification to trump the plain meaning of the ... water quality standards regulation...." *Id.*, at 30.

III. As A Policy Matter, It Makes No Sense To Discharge Sanitary Wastewater To A Surface Water Body

In 1998, when EPA started down the path of "rationaliz[ing] a new discharger into a water quality-limited water body",⁸⁸ there is no indication that the agency thought for even a minute that it would be promoting significant new population growth along the already-stressed Sudbury River. It appears that Region I was only trying to accommodate re-tenanting of an existing, unoccupied office building. Little did the Region realize that, eventually, grander plans would materialize for the office building parcel – demolition of all structures on the site and a total re-development consisting of approximately 100 multi-bedroom residences as well as restaurants, retail and commercial enterprises – all adjacent to the Sudbury River. And the developers are none other than some of the same individuals who requested the favor.

⁸⁷ Exhibit 47, September 26, 2008 DEP letter from Glenn Haas to Brian Pitt, EPA.

⁸⁸ See Exhibit 9, January 14, 1998 memorandum from Jane Downing to John DeVillars, EPA Regional Administrator, Subj: Congress Group Ventures Wayland Raytheon NPDES Permit

Information about the proposed re-development is readily available through the Massachusetts Environmental Policy Act Office, local Town of Wayland Boards and Commissions, as well as from news and advertising media. One of the very interesting features of the re-development is the 9,900 gpd septic system with on-site leaching field (and an equivalent size reserve leaching field) that has been designed to treat wastewater from this new venture.⁸⁹

It should be noted that the phosphorus trading mechanism devised to justify issuance of the 1998 NPDES permit would, if implemented, have only required septic system tie-ins totaling 4,740 gpd of flow. So, as a result of the proposed re-development, there will be an additional net increase in phosphorus loadings to the watershed immediately adjacent to the Sudbury River. The re-development also still plans to monopolize what appears to be 87% of the wastewater treatment plant's capacity.

As so aptly stated in a comment objecting to the draft 1998 NPDES permit, "The initial permit would be in effect for five years, but the permitted activity would last indefinitely."⁹⁰ In this case, as a matter of policy, issuance of an NPDES permit authorizing the discharge of nutrient-rich wastewater makes no sense.

BASIS FOR APPEAL

The facts and circumstance outlined in this Petition demonstrate that the contested Permit provisions are based on errors of law and fact and involve an exercise of discretion and important considerations that the EAB should exercise its power to review.

⁸⁹ See Exhibit 48, excerpt from February 15, 2008 "Final Environmental Impact Report for Wayland Town Center, Wayland, Massachusetts," prepared by the project proponent for the Massachusetts environmental review process, pp. 5-1 through 5-4

⁹⁰ See Exhibit 49, June 5, 1998 letter from Cassie Thomas, SuAsCo Project Manager, National Park Service, U.S. Department of the Interior to Jane Downing, EPA

RELIEF SOUGHT

We respectfully seek full review by the EAB of the appealed terms, conditions and limits of the Final Permit, based on this initial Petition and on his supplemental Petition for review to be submitted.

As part of such review, we seek the following relief:

- (1) that the EAB grant review of the Petitions for Review.
- (2) that the Board remand the Permit to the Region for further permitting procedures, including, but not limited to, quashing the Permit and requiring the Permittee to commence a new permit application if it cannot find alternative disposal capacity for the existing flow, and imposing a compliance order and schedule to bring the current discharge into compliance;
- (3) that the Board remand the Permit to the Region for further permitting procedures, including but not limited to, imposing more stringent total phosphorus limits and other conditions that will ensure that water quality in the Sudbury River will come into compliance with water quality standards.
- (4) that the Board take any other action necessary so that the Permit advance the policy goals of the Clean Water Act.

Respectfully submitted,

Thomas B. Arnold

By his attorney,

A handwritten signature in black ink that reads "Deirdre C. Menoyo". The signature is written in a cursive style with a large initial 'D'.

Deirdre C. Menoyo
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DATE: Nov 26 2008

CERTIFICATE OF SERVICE

I certify that I caused to be served by first class mail a copy of the Petition for Review and Exhibits to:

Robert Varney, Regional Administrator
U.S. Environmental Protection Agency, Region 1
One Congress Street, Suite 1100
Boston, MA 02114-2023

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
One Winter Street
Boston, MA 02108-4746

Dated: November 26, 2008


Deirdre C. Menoyo