



THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Request for Determination of Insignificance Under the Interbasin Transfer Act MGL Chapter 21 Sections 8B - 8D

Hopkinton South Street Sewer Connection

**WRC Decision
August 13, 2009**

WRC Decision

On August 13, 2009, by a five (5) to one (1) vote, the Water Resources Commission found that the Town of Hopkinton's proposal to transfer 204,410 gallons per day (gpd) of wastewater, originating in the Concord River basin, to the Milford Wastewater Treatment Plant, in the Charles River basin, was insignificant under the Interbasin Transfer Act (MGL Chapter 21 Sections 8B - 8D).

Background

The Town of Hopkinton submitted a Request for Determination of Insignificance (RDI) under the Interbasin Transfer Act on May 26, 2009. Hopkinton is proposing to connect a portion of its existing sewer system (South Street industrial area) to the Milford sewer system and have this portion of its wastewater be treated at the Milford Wastewater Treatment Plant. Hopkinton's public water supply (which also serves the South Street area) is derived from wells located in the Concord River basin (also known Sudbury/Assabet/Concord River basin). Hopkinton's wastewater is currently conveyed to the Westborough Wastewater Treatment Plant (WWTP), which discharges to the Assabet River, a major tributary of the Concord River basin. The South Street area of Hopkinton is located within the Charles River basin, as is the Milford Wastewater Treatment Plant. The proposed change to convey wastewater from Hopkinton to Milford represents an interbasin transfer because the wastewater (originally from the Concord River basin) will now cross both a basin line and a town line to the Charles River basin.

Project Description/Proposed Transfer

Hopkinton currently has an agreement with the Westborough WWTP to treat up to 0.4 million gallons per day (mgd) of wastewater. The Westborough WWTP does not have additional capacity to treat flows from proposed development expansion in the South Street area.

Hopkinton and Milford have signed an Intermunicipal Agreement, allowing up to 0.50 mgd to be transferred; however, this request for determination of insignificance was only for 204,410 gpd. As this request was found to be insignificant, Hopkinton will execute an additional agreement with Milford limiting the transfer to the approved amount. Both towns have constructed sewer mains within 30 feet of each other in anticipation of utilizing this Intermunicipal Agreement.

Analysis

Criterion	Hopkinton's Application
(a) Is not over 1 mgd	Meets
(b) Is less than 1mgd on an annualized basis and is temporary, of short duration and for a purpose other than water supply/sewer use	Not Applicable
(c) Additional flow is less than 5% of the instantaneous flow	Meets
(d) The 95% exceedance flow, or the 7Q10 flow when relied upon in a program of pollution abatement, will not be diminished	Meets
(e) Special resource values will not be adversely affected	Meets
(f) The Commission shall consider the cumulative impacts of all past, authorized or proposed transfers on streamflows in the donor basin	Meets

A summary of how the application addressed these criteria is found in Attachment 1.

Analysis Narrative

(a) In all cases the transfer is less than 1 MGD

The applicant requested a transfer of 204,410 gallons per day, or 0.20 mgd.

(b) Transfer is less than 1 MGD on an annualized basis and is temporary, of short duration and for a purpose other than water supply/sewer use:

This criterion is not applicable to this project. The proposal is for a long-term sewer connection.

(c) Amount of additional interbasin transfer is less than 5% of streamflow measured at an appropriate point in the donor basin:

Approach

The analysis for donor basin streamflow impacts of this project was based upon the site-specific conditions. The WRC considered that the loss of flow associated with the interbasin transfer would occur from the Westborough WWTP, which discharges near the headwaters of the Assabet River. The nearest long-term United States Geological Survey (USGS) stream gage on the Assabet River is at Maynard, many miles downstream, with several other wastewater discharges on the river between the Westborough WWTP and the Maynard gage. Therefore, the applicant was directed to utilize wastewater discharge data from the Westborough WWTP as a surrogate for river flow at the point of impact.

Analysis

The Westborough WWTP is located near the headwaters of the Assabet River. At this point, the drainage area to the river is 8.64 square miles (USGS StreamStats). The EPA National Pollutant Discharge Elimination System (NPDES) permit for the Westborough WWTP limits discharges to 7.68 MGD, equivalent to 11.9 cubic feet per second (cfs). The Westborough WWTP is located downstream from a flood control project (the A-1 or Nichols Dam) which impounds water from 6.63 square miles. USGS stream gage 010965995 is located just downstream of this impoundment and measures outflow from the Nichols dam. The USGS gage has only been in operation since April 2006. There are no release requirements from the dam, although since April 2006 there has always been flow measured at the USGS dam, probably low flows from leakage, and higher flows from controlled releases. The minimum flow measured from the outflow of the Nichols dam since its construction was 0.04 cubic feet per second (cfs), or 25,853 gpd. Low flows of 0.05 cfs have typically been recorded at the USGS gage downstream of the Nichols dam during summer months.

Maximum flows around 100 cfs occurred during the spring months downstream of the dam. The median outflow from the Nichols dam for the 2006 to 2009 period of record for the USGS gage is 8.7 cfs.

The USGS StreamStats tool (<http://water.usgs.gov/osw/streamstats/massachusetts.html>) was used to estimate natural flows at the location of the Westborough WWTP that would have occurred in the absence of both the Nichols dam and the Westborough WWTP discharges. Low flow statistics were generated for the site using StreamStats. Natural low flow estimates range from a 99 percent exceedance flow of 0.39 cfs to a 50 percent exceedance flow of 8.61 cfs.

The applicant produced wastewater discharge data for the Westborough WWTP beginning in 1983, when the plant went on-line. Data were divided into three time periods for analysis, based on increases in the Westborough WWTP capacity and accepted flows. The time period of 2000 to 2009 was deemed representative of the current wastewater flows at the treatment plant discharge location. Daily discharges during this period ranged from 3.37 MGD to 18.59 MGD, or approximately 5 to 29 cfs. The median discharge from the Westborough WWTP was 5.14 MGD or approximately 8 cfs. It is evident that the Westborough WWTP discharge provides a significant increase over natural streamflow and releases from the Nichols dam during dry periods (lowest 50th percentile of the flow duration curve).

Summing the minimum discharge from the Westborough WWTP (3.37 MGD) with the minimum outflow from the A-1 reservoir (25,853 gpd) results in a total minimum discharge of 3.40 MGD. Limiting an interbasin transfer that can be accepted under the insignificance criteria of 5 percent of minimum streamflow would result in a transfer limit of 169,793 gpd.

The applicant developed a Comprehensive Wastewater Management Plan (CWMP) in 2004 which recommended utilizing a new in-town wastewater disposal system at Fruit Street and continuing to send its allocated capacity to the Westborough WWTP. The in-town wastewater solution has been delayed by litigation on the proposed Fruit Street project, which in part is the reason for this request. However, Hopkinton will continue to send up to its allotted capacity (0.4 mgd) to the Westborough WWTP. Therefore the Town maintains that any wastewater capacity transferred to Milford will be replaced as Hopkinton sewers new services to the Westborough WWTP. This is considered flow augmentation to the Assabet River. Thus, the applicant requests additional capacity to transfer wastewater to Milford in the amount that will be added to the Westborough WWTP from this additional sewerage, a sum of 34,620 gpd. Adding this amount to the interbasin transfer would result in a limit of 204,410 gpd.

(d) The 95% exceedance flow, or the 7Q10 flow when relied upon in a program of pollution abatement, will not be diminished:

The 95% exceedance flow at the Westborough WWTP for the period of 2000 to 2009 based on waste water discharge is 4.12 MGD or 6.39 cfs. A reduction of 169,793 gpd would equate to 0.26 cfs, or four percent of the 95 percent exceedance flow. The Westborough WWTP would still be discharging much above the estimated natural 95th percentile flow (0.84 cfs) after this reduction in flow.

As documented in the Request for Determination of Insignificance application, there are four downstream wastewater treatment plants with 7Q10 flows assigned to them. The 7Q10 statistic represents the seven-day low flow that occurs with an average frequency of once every ten years. The 7Q10 is used to determine adequate wastewater dilution for maintenance of stream water quality. The downstream wastewater treatment facilities include Marlborough (7Q10 of 6.7 cfs), Hudson (7Q10 of 10 cfs), Maynard (7Q10 of 14 cfs), and Concord (7Q10 of 34 cfs). Loss of 170,000 gpd (0.26 cfs) of wastewater from the Westborough WWTP would constitute less than four percent of the downstream Maynard WWTP 7Q10 value, to less than one percent of the Concord WWTP.

(e) Special resource values will not be adversely affected:

The applicant presented information to confirm that the transfer of flow from the donor basin is not expected to affect endangered species (none present); ACEC (not present at or downstream of discharge); a scenic river (Assabet is not designated); article 97 public lands (not present); vernal pools (not present downstream); lakes; ponds; or wetlands. With respect to fishery resources, the Assabet River is stocked downstream of the Westborough WWTP in Northborough. Because this reduction represents a small reduction in flow, it is unlikely this resource will be affected. The reduction of wastewater may be beneficial to water quality in the Assabet River.

(f) The Commission shall consider the cumulative impacts of all past, authorized or proposed transfers on streamflows in the donor basin:

There are interbasin transfers of both water and wastewater into and out of the donor basin. The loss of a small portion of the wastewater from the Westborough WWTP is not expected to have a significant impact to streamflows in the donor basin.

Decision

On August 13, 2009, after reviewing the proposal and the comments received, **the WRC determined that this project as proposed is insignificant under the Interbasin Transfer Act.** The project as proposed requires that Hopkinton execute an additional agreement with Milford limiting the transfer to 0.205 mgd. **Hopkinton must provide the WRC with a final copy of this agreement before the wastewater flow can be redirected.** If future sewerage exceeds the maximum amount approved under this determination, and additional flow is to be directed to Milford, additional ITA review will be necessary. As demonstrated through this review, it is unlikely that transferring additional flow from this basin could meet the criteria for insignificance and so a full ITA review would likely be necessary. This would trigger an Environmental Impact Report (EIR) under MEPA, as well as a minimum 120-day ITA review period, commencing after the MEPA process is complete. If Hopkinton anticipates needing additional capacity at the Milford wastewater treatment plant, it should begin its planning and permitting process as soon as possible. The WRC also suggest that the Town address concerns to impacts to the Sudbury River from use of its water supply sources in this EIR.

Attachment 1
Request for Determination of Insignificance
Hopkinton-Milford Wastewater Project

Summary of Criteria Analysis

Criterion	Proposal Meets	Explanation
(a) Is not over 1 mgd	Yes	204,410 GPD proposed
(b) Is less than 1mgd on an annualized basis and is temporary, of short duration and for a purpose other than water supply/sewer use	Not Applicable	Permanent transfer of wastewater, less than 1 MGD
(c) Additional flow is less than 5% of the instantaneous flow	Yes	Proposed transfer does not exceed 5% of the instantaneous flow.
(d) The 95% exceedance flow, or the 7Q10 flow when relied upon in a program of pollution abatement, will not be diminished	Yes	Wastewater 95% exceedance flow reduced by 4%; Flow in the river is heavily surcharged by wastewater; 7Q10 flows will not be significantly diminished.
(e) Special resource values will not be adversely affected	Yes	Applicant demonstrates.
(f) The Commission shall consider the cumulative impacts of all past, authorized or proposed transfers on streamflows in the donor basin	Yes	Donor basin is heavily surcharged with wastewater.

