



THE COMMONWEALTH OF MASSACHUSETTS WATER RESOURCES COMMISSION

Elm Bank Water Supply Development Interbasin Transfer Act Application WRC Decision

I. Project Background

The town of Natick, acting as the lead community for the towns of Dover, Needham, Natick and Wellesley, is proposing to develop three wells at the state-owned Elm Bank property in Dover. Development of water supply at this site is authorized by the Elm Bank Act, Chapter 624 of the Acts of 1986.

The three proposed Elm Bank wells have been approved by the Department of Environmental Protection (DEP) for an average yield of 4 million gallons per day (mgd). Actual withdrawals will be subject to the provisions of the Water Management Act.

Natick has taken the lead in developing the supply because the town has been experiencing operational and water quality problems with its Springvale and Evergreen wells in the Concord River basin. Overdependence on the Springvale wells causes them to go dry at times. Iron and manganese accumulation are causing the well screens to be encrusted and collapse. The Evergreen wells are experiencing similar iron and manganese problems, but to a worse degree. In addition, overpumping at the Evergreen wells is causing sand to be drawn in, which reduces the pumping rate and increases the zone of contribution (Zone II). The Zone II for the Evergreen wells now include some hazardous waste sites. When pumping is reduced, the level of volatile organic contamination is reduced. Without an additional source of water supply, it is DEP's judgement that Natick will experience increased water supply emergencies, and might require admission to the Massachusetts Water Resources Authority.

II. Interbasin Transfer Application Background

On August 15, 1990, the Massachusetts Water Resources Commission (WRC) received an application from the Town of Natick under the Interbasin Transfer Act (M.G.L. Chapter 21 ss. 8B-8D) for approval of an action to increase the present rate of transfer of water through the development of three wells located at the Elm Bank site in Dover, in the Charles River basin. The proposal falls under the jurisdiction of the Interbasin Transfer Act because the water will be discharged as wastewater to the Massachusetts Coastal basin via the MWRA sewer system.

On February 10, 1992, after receiving additional information from Natick, the Water Resources Commission voted that the application was complete. Public hearings were held in Boston on March 30, 1992 and in Dover on March 31, 1992. Public comment was accepted until April 7, 1992.

III. Evaluation of the Proposed Interbasin Transfer

1. This interbasin transfer application was reviewed on its own merits.
2. The WRC decision is made on facts relevant to the Interbasin Transfer Act and its regulations.
3. This decision was based on guidelines and interpretations that have been in use for the past five years, as well as newer guidelines adopted by the Water Resources Commission in its Charles River basin plan and its Determination of Insignificance under the Interbasin Transfer Act for a proposal by the town of Wellesley.

IV. WRC Decision

On April 13, 1992, the Water Resources Commission discussed the merits of this application. The four towns meet all of the seven applicable criteria required under the Interbasin Transfer Act (Chapter 658, Acts of 1983) and regulations (313 CMR 4.05) provided certain water conservation conditions are met. Because the towns have demonstrated a commitment to meet these conditions, **Water Resources Commission approved this application with conditions.**

As part of this conditional approval of the Elm Bank Interbasin Transfer, the Water Resources Commission recognizes that (a) this withdrawal and subsequent discharge to the Massachusetts Coastal basin as wastewater constitutes an additional, if relatively small, loss to the already stressed Charles River basin, and that the cumulative impacts of such withdrawals require the strict conditioning of this approval; and (b) while the entire 4 mgd will not be developed at this time, this decision will reserve the entire amount for local use.

V. Synopsis of Evaluation Criteria

ELM BANK APPLICATION MEETS?

CRITERION #1, MEPA Compliance:	YES
CRITERION #2, Development of In-basin sources:	YES
CRITERION #3, Conservation:	YES, with conditions
CRITERION #4, Forestry Management Program:	NOT APPLICABLE
CRITERION #5, Reasonable Instream Flow:	YES
CRITERION #6, Pump Test Results:	YES
CRITERION #7, Local Water Resources Management Plan:	YES
CRITERION #8, Cumulative Impacts:	YES

VI. Basis for WRC's Decision of Conditional Approval

Natick, Needham, and Wellesley have all made great efforts in the area of water conservation. These efforts include:

- All towns are 100% metered; Natick reads its meters quarterly, Needham reads large users' meters quarterly, others twice yearly; Wellesley reads its meters bimonthly
- Rate structures reflect full cost pricing; Wellesley has an increasing block rate with seasonal pricing; Natick has a flat rate, but is investigating instituting an increasing block rate structure; Needham has a flat rate
- All towns, including Dover, have aquifer protection bylaws, with overlay districts
- Unaccounted-for water within the three communities ranges from 9% to 13%
- Natick is currently conducting a water audit to identify and quantify unaccounted-for water within the system. The town will conduct a leak detection survey, according to the audit results. The audit will also examine the Town's metering system, including calibration and billing procedures.
- Natick has worked with industrial and commercial customers to reduce water use.

However, in order to fully comply with Criterion #3: All practical measures to conserve water have been taken in the receiving area, Natick, Needham and Wellesley must complete certain additional actions. Specifically:

- Natick must complete the ongoing water audit and implement its recommendations
- Natick and Wellesley must continue with their meter replacement programs
- Needham must increase the frequency of meter replacement from every 15 years to every 10 years and increase the frequency of domestic meter reading from twice yearly to quarterly
- Natick must institute a program to distribute water saving plumbing fixtures to residential customers in an effort to maintain residential gpcd at 80 or below
- Needham must install water saving plumbing fixtures in all public buildings and institute a program to distribute water saving plumbing fixtures to residential customers in an effort to reduce residential gpcd to 80 or below
- Needham and Wellesley must submit updated Water Conservation Plans to the WRC for approval before they make use of the Elm Bank water supply.

Throughout the application process, the town of Natick has worked closely with the Department of Environmental Management (DEM) and DEP, and has expressed a willingness to respond to the above mentioned deficiencies. The towns of Wellesley and Needham are not planning to use the Elm Bank water supply in the near term.

Therefore, approval of this interbasin transfer is **conditional upon**

A. The town of Natick completing the following conservation measures:

1. Natick shall submit the water audit, with recommendations, to the WRC for review and approval. Evidence that the recommendations will be implemented, as well as a timetable for implementation of these recommendations must be provided for WRC approval by August 31, 1992.
2. Natick shall distribute water saving fixtures to residential customers and may consult with the MWRA, if appropriate, to determine the most effective type of program for Natick. The Town shall submit a plan for the implementation of this requirement for the review and approval of the WRC by August 31, 1992.
3. Natick shall provide annual reports for the first four years that the Elm Bank wells are operating to demonstrate that residential gpcd is maintained at 80 or below.
4. Natick must submit a plan to reduce normal peak demands for WRC review and approval by August 31, 1992.
5. Natick must submit a plan for WRC review and approval to reduce high seasonal peak demands, which may include higher seasonal rates, by August 31, 1992.
6. Natick must obtain a Water Management Act permit and abide by its conditions.
7. Natick must abide by the conditions of the Four Town Agreement entered into pursuant to Chapter 624 of the Acts of 1986, and any subsequent modifications thereto, concerning the allocation of water among the towns of

Natick, Dover, Needham, and Wellesley.

B. In addition, the towns of Needham and Wellesley must complete the following water conservation measures before they are allowed to use the Elm Bank water supply, but not as a precondition to Natick's use of Elm Bank water:

1. Both towns must submit an updated Water Conservation Plan to the WRC for approval
2. Needham must provide a revised schedule for meter reading and replacement to conform with WRC guidelines and provide evidence of the town's ability to conduct this work.
3. Needham must provide evidence that all public buildings have been retrofit with water saving devices and provide a plan to distribute water saving fixtures to residential customers for WRC approval. The town should consult with the MWRA, if appropriate, to determine the type of program that will be the most effective for Needham.
4. Needham shall provide evidence that measures have been taken, resulting in a reduction of residential gpcd to 80 or below.
5. Needham and Wellesley must obtain a Water Management Act permit and abide by its conditions.
6. Needham and Wellesley must abide by the conditions of the Four Town Agreement entered into pursuant to Chapter 624 of the Acts of 1986, and any subsequent modifications thereto, concerning the allocation of water among the towns of Natick, Dover, Needham, and Wellesley.

VI. Reasonable Instream Flow

It is the judgement of the WRC that this transfer maintains a reasonable instream flow within the Charles River. Withdrawals from Elm Bank will be governed by the following parameters:

No withdrawals shall occur when streamflow, as measured at the Dover gage, falls below:

0.53 cfs: from September 15 to November 15

0.21 cfs: from November 16 to February 28

0.96 cfs: from March 1 to June 15

0.21 cfs: from June 16 to September 14

DEM Office of Water Resources will work with the USGS to provide Natick with access to instantaneous readings from the Dover gage. Natick will submit an annual report to the WRC detailing gage readings and volumes pumped from Elm Bank. This will be reviewed by the WRC staff and the Division of Marine Fisheries to determine if any adverse impacts to fishery resources occur as a result of Elm Bank pumpage. This requirement shall

be in effect for the period when the Concord basin wells are being rehabilitated, as well as when the Elm Bank wells will be in normal operation.

These streamflow parameters incorporate flow numbers previously approved by the Water Resources Commission. On August 14, 1989, the WRC voted unanimously to approve the streamflow recommendation of 0.21 cfs for the Charles River basin, with a seasonal requirement of 263 cfs at the Watertown Dam from March through May (this is equivalent to 0.96 cfs). On August 12, 1991, the Water Resources Commission voted unanimously to find a proposal by the town of Wellesley to enter into a water sharing agreement with the MWRA to be insignificant under the Interbasin Transfer Act, provided the exchange honored the streamflow parameters approved for the Charles River basin by the WRC, as well as honoring a special fall flow of 0.53 cfs.

On May 26, 1992 the town of Natick signed a DEP Administrative Consent Order to rehabilitate and treat the Evergreen and Springvale wells in the Concord River basin. This Order is legally binding, with strict deadlines for completing various phases of the rehabilitation process. It is DEP's judgement that Natick cannot implement the Consent Order and rehabilitate the Concord Basin wells without additional water from the Elm Bank wells.

During this period when Natick's Concord basin wells are undergoing rehabilitation, the operation of the Elm Bank wells will be governed by the DEP Administrative Consent Order, and take into account the Town's water supply needs and the Commission's concern for the protection of the river's aquatic resources. The Consent Order must include a schedule of construction which minimizes the impacts on streamflow, especially during times of the year which are sensitive for aquatic organisms, and recognizes the importance of the streamflow parameters approved as part of this motion.