



THE COMMONWEALTH OF MASSACHUSETTS  
WATER RESOURCES COMMISSION  
100 CAMBRIDGE STREET, BOSTON MA 02114

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

**Woodlands at Laurel Hill Project**

**WRC Decision  
August 10, 2006**

**WRC Decision**

On August 10, 2006, after reviewing the proposal by the Woodlands at Laurel Hill LLC to transfer water from the Littleton Water Department to a proposed development in Westford, **the WRC unanimously determined that this project, as proposed, is insignificant under the Interbasin Transfer Act.**

**Background**

The Woodlands at Laurel Hill LLC filed a request for determination of insignificance under the Interbasin Transfer Act (M.G.L. Chapter 21 §§ 8B-8D) with the Massachusetts Water Resources Commission (WRC) to purchase up to 15,080 gallons per day of potable water from the Littleton Water Department. The proposed development, The Woodlands at Laurel Hills, is located in the towns of Westford and Acton in the Concord River basin (Figure 1). The 448 unit Chapter 40B development is composed of a mix of apartments, condominiums, and single family homes. Eighty-eight units are located in Westford and 360 units are in Acton. The Acton portion of the development will be served by the Acton Water District. Littleton has agreed to provide domestic water supply to the Westford portion of this development. Wastewater will be disposed of on-site through a ground-water discharge system permitted by the Department of Environmental Protection. The proposed wastewater facility will be located on the Westford portion of the property (Concord River basin). Since Littleton's water supply sources are located within the Merrimack River Basin, and water will cross a town and basin boundary, this proposal required Interbasin Transfer Act review.

The WRC received the request on February 16, 2006, as part of the Draft Environmental Impact Report (DEIR) for this project. Additional information was

requested through the MEPA process. This information was provided in the Final EIR (FEIR), which was received by WRC Staff on April 20, 2006. The Certificate on the FEIR was issued on June 2, 2006, stating that no further MEPA review was necessary.

## **Project Description/Proposed Transfer**

The Woodlands at Laurel Hill proposes to purchase water from the Littleton water system to serve the Westford portion of this development. In comments on the Environmental Notification for this project, the WRC directed the proponent to explore the possibility of obtaining water from either in-basin or in-town sources. The DEIR investigated these alternatives and reported that the Acton Water District was limited by its enabling legislation to providing water supply only to Acton and Boxborough. Therefore, this source could not be used to serve the Westford portion of the development. For Westford to supply water to the development, construction of two miles of 12-inch water main would be necessary. The cost of just the construction of this extension was estimated to be \$1 million and could require the crossing of several wetland and open-space tracts of land. Environmentally and economically, this appears to be an unreasonable option. It may be a challenging possibility to develop an on-site water supply along with an on-site wastewater disposal system, however, MA DEP advised the proponent in 2004 that it prefers that developments of this size and nature connect to a public water supply in order to provide continuous and reliable quality testing, reporting, and maintenance. For this reason, the development of an on-site water supply was given a low priority of consideration and the Littleton option was chosen.

Littleton's entire water supply comes from the Merrimack River Basin, which is the donor basin for this interbasin transfer. Littleton pumps its water from three wells: two located adjacent to Beaver Brook, and one on the shore of Spectacle Pond in the Gilson Brook subbasin (figure 1). Both these brooks drain to Forge Pond, which is drained by Stony Brook, which flows to the Merrimack River.

The project is being designed to incorporate many of the Commonwealth's Sustainable Development Principles and Low Impact Development techniques. The units are being designed to use less energy, land and water resources than typical homes in the area. The mixed use setting will provide opportunities to walk to shops, restaurants, businesses and recreation. Water usage will be sub-metered to encourage water conservation. Potable water will not be used for irrigation. Instead, irrigation wells will be installed for landscape watering. Rain gages and cut-off valves will be installed to ensure that proper irrigation practices are followed. Timers will also be used to trigger the operation of sprinklers only during the early morning hours. Landscape design will incorporate native species and ecological and sustainable design elements to minimize the amount of irrigation.

In addition, the units will be furnished with low-flow plumbing fixtures in accordance with the State plumbing code and residents will be educated using the *Massachusetts Drought Management Task Force Tips for Saving Water – Indoor and Outdoor*.

## Analysis

The Woodlands at Laurel Hill's Request for Determination of Insignificance was forwarded for review to staff from the Department of Environmental Protection, the Division of Fish and Wildlife, and the Riverways Program. None of these agencies provided comments on the Request, but some did comment on the EIR. The Request was reviewed against the criteria for insignificance listed in the Interbasin Transfer Act regulations, 313 CMR 4.04(4). A summary of the applicant's compliance with the criteria for insignificance is shown below.

Criterion	Woodlands' 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 use	Not Applicable
(c) Additional flow is less than 5% of the instantaneous flow	Meets
(d) The 95% exceedance flow 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) Criteria: In all cases the transfer is less than 1 MGD**

The requested transfer amount of 15,080 gpd is based on Title 5 peak flows per day for the 84 new residential units plus four single-family homes proposed to be located in Westford. This methodology uses a peaking factor of twice the anticipated average daily flow. It is anticipated that the actual transfer of water will be about 50 percent of the requested amount, and thus would be well below the 1 mgd requirement.

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

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

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

The outlet of Forge Pond (Figure 1) was selected as a point of reference for analysis of the impact of the proposed transfer on streamflow. This is the first downstream point from the donor basin wells where the combined effects of groundwater withdrawals in the two subbasin streams could be analyzed. Mean daily flow in Stony Brook was synthesized from mean daily flow data at the USGS gage on the Squannacook River in West Groton, Massachusetts. Mean daily discharge at the outlet of Forge Pond was determined by multiplying the Squannacook data by a factor of 0.369 to account for the differences in basin size. The mean daily flow that would result from the requested transfer was calculated by subtracting the requested transfer amount from the flows of the synthesized hydrograph. The percent reduction in flow was also calculated. The percent reduction was less than 3.2 percent on a daily basis. A hydrograph showing the synthesized mean daily discharge out of Forge Pond with and without the proposed transfer for the period 1965 to 2004 is shown in Figure 2. The graphs of the existing and proposed flows are almost indistinguishable. A second hydrograph (Figure 3) shows the discharges for the lowest period of record July through September 1965. Again, both conditions are nearly indistinguishable.

### **(d) Criteria: The 95% exceedance flow will not be diminished:**

Using the flow data that was calculated in "c" (above) the 95% exceedance flow was calculated to be 4.427 cfs without the transfer and 4.404 cfs with the transfer, a reduction of 0.023 cfs, or 0.53% (less than one percent), an almost immeasurable decrease.

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

A two-year study completed in 1999 by the Littleton Water Department concluded that its withdrawal of water had no effect on wetland plant communities that might impact waterfowl habitat. Oxbow Associates (Littleton's environmental

consultant) believes that the proposed interbasin transfer will not affect rare species habitat since water level changes will be undetectable. There are at least 16 certified and 33 potential vernal pools identified in the potential contributing area of the Littleton water supply. Oxbow Associates believes that there will be no impact to these as a result of the transfer. In a letter dated October 12, 2005 MA DFW, NHESP concurred with this finding. There are no Areas of Critical Environmental Concern, Designated Scenic Rivers, or Geographic Areas protected by Article 97 affected by the transfer.

**(f) Criteria: Consider the cumulative impacts of all past, authorized or proposed transfers on streamflows in the donor basin:**

The only permitted IBT from the Merrimack River Basin is from Andover to North Reading which is in the Ipswich River Basin. That transfer occurs from the Merrimack at a point below the confluence of the Concord River (receiving basin) and the Merrimack (donor basin). Therefore, it is the WRC's opinion that there is no cumulative impact to the donor basin.

**WRC Decision**

After reviewing the proposal and the comments received, **the WRC found that this project as proposed is insignificant under the Interbasin Transfer Act.** If future water needs require more than the maximum amount approved under this determination, additional ITA review may be necessary.