

# CRITICAL TENETS OF THE COMPREHENSIVE WASTEWATER MANAGEMENT PLAN

Beginning in 1999, CPW initiated a comprehensive wastewater management planning (CWMP) process to review wastewater management practices town-wide. Prompting this significant undertaking was a requirement of the town's NPDES permit as the flow at the WWTP reached 80% of its regulated discharge capacity. The main goals of this planning process were to:

- Ensure that there was town-wide acknowledgement of the limitation of remaining treatment capacity,
- Identify 'needs' areas where the current wastewater management practices were potentially not performing as intended with respect to treatment function and environmental protection, and
- Evaluate alternative solutions for wastewater management in the problematic 'needs' areas, given the existing limitations of the municipal sewer system.

To effectively accomplish the goals of the wastewater management planning process, the Town Manager appointed a group of eight Concord citizen volunteers to provide guidance and advice to Town staff of various departments and consultants. This group, designated as the Wastewater Planning Committee (WPC), served the Town from 1999 through 2004 and provided both a critical link to the community as well as liaison activities to other town boards and committees. The WPC included representatives of the Public Works Commission, Board of Health, Planning Board, Finance Committee and Natural Resources Commission to assure consideration of varied perspectives. Over the course of their tenure, the WPC held over 30 public committee meetings, hosted 11 neighborhood-specific public meetings and presented at 6 town-wide meetings to communicate the process to the public and to elicit public input. An additional 39 staff meetings were held to discuss project progress internally with consultants,

other board representatives and state regulators.

**Step 1. Needs Assessment:** The CWMP process began with an overall look at the Town's wastewater management practices and identification of areas in town where issues existed or were likely to exist in the future. This needs assessment step focused on parcels using on-site systems and cross-referenced Board of Health information and mapping of environmental factors (resource areas, groundwater levels, soils and bedrock) to evaluate the likelihood that these parcels could continue to effectively treat and dispose of their wastewater on-site without the need for Title 5 design standard variances. The summary of this first step estimated that approximately 934 of the developed parcels in town would have a potential problem maintaining a fully compliant on-site system.

**Step 2. Alternative Analysis:** The second step in the CWMP process involved evaluating off-site wastewater management alternatives for the potential problem areas identified in the needs assessment. The alternatives identified for evaluation included:

- Connection to the existing centralized sewer system and Concord WWTP.
- Construction of decentralized cluster sewer and neighborhood treatment systems.
- Construction of smaller shared Title 5 systems.
- Continued use of individual on-site systems.

Detailed analysis of these alternatives including cost estimation, area prioritization and preliminary design creation followed as the third step in the process and resulted in a Recommended Plan for implementation.

The critical tenets of the CWMP process, as defined by the EPA, MA DEP and community input, and

carried throughout each step of the planning effort, were as follows:

- Stay within the flow limitation of 1.2 million gallons per day (mgd) at the Concord WWTP based on the existing NPDES permit. DEP advised the Town early in the process that increases in flow beyond the permitted capacity would require groundwater discharge with consideration of the water balance approach described below.
- Maintain the current water balance (recharge versus withdrawal) to the maximum extent feasible in the three major Concord River sub-watersheds (Concord, Assabet, and Sudbury).
- Maintain growth neutrality to the maximum extent feasible in areas proposed for new sewer extensions. Growth neutrality meant that any new wastewater infrastructure would neither promote nor prevent growth compared to existing conditions of growth potential.
- Minimize the need for future Title 5 variances for non-compliant on-site systems, to enhance protection of public health and the environment.

The drivers of each of these tenets included the federal and state government, who regulate and enforce NPDES and Title 5 requirements and have initiatives regarding water balance and growth impacts, along with local boards and the community who were very vocal about maintaining growth neutrality and the existing character of the neighborhoods in Concord.

The results of this planning effort culminated in a document titled, "Town of Concord, Massachusetts, Comprehensive Wastewater Management Plan & Single Environmental Impact Report, EOE # 13088, February 2004." Recommendations of this report included a 10-year construction-phasing plan to extend the centralized sewer system

to sixteen specific areas of town and to construct a localized neighborhood treatment system for one area of town. Figure 1 shows the CWMP recommendations.

To meet the requirements for a CWMP and to streamline the process of future permitting for project implementation phases, the final document and related predecessor documents were subjected to the full environmental review process in accordance with the Massachusetts Environmental Policy Act (MEPA). The major milestones of this process included:

- April 2003 Received Town Meeting support of draft CWMP
- July 2003 Submitted Environmental Notification Form (ENF) to MEPA
- September 2003 Received MEPA Certificate on ENF and approval to submit a Single Environmental Impact Report (EIR)
- February 2004 Submitted CWMP/Single EIR to MEPA
- April 2004 Received MEPA Certificate on CWMP/Single EIR

The MEPA Certificate served as the approval for the project and each of its component phases from the Massachusetts Executive Office of Environmental Affairs.

**FIGURE 1**  
**TOWN OF CONCORD, MASSACHUSETTS**  
**COMPREHENSIVE WASTEWATER MANAGEMENT PLAN:**  
**RECOMMENDED PLAN AREAS**

