

## **BRIEFING PAPER – WASTEWATER MANAGEMENT IN THE TOWN OF BOURNE, MA**

### **EXECUTIVE SUMMARY**

The Bourne Financial Development Corporation has the mission of developing and implementing a strategy to promote the economic growth of the Town of Bourne by attracting and retaining capital investment and job creation. The BFDC is concerned that a lack of an adequate wastewater management infrastructure in Bourne is a serious impediment to the Town's economic growth.

This "fact sheet" summarizes the past planning and current situation in Bourne regarding wastewater management, and also identifies state and Barnstable County initiatives that are addressing related technological, financial and water quality concerns.

- Bourne's history in wastewater planning goes back to 1969, but proposed wastewater treatment plans failed to obtain Town Meeting approval.
- Presently less than 10 percent of the Town (669 businesses and dwellings in Buzzards Bay and Hideaway Village) are served under a Memorandum of Agreement with Wareham.
- Bourne will soon be required to develop nitrogen management plans for several watersheds under the Massachusetts Estuaries Project.
- Barnstable County government has developed several programs, such as the Wastewater Implementation Committee, to assist towns in wastewater management planning.
- A proposed Cape Cod Collaborative that would assist towns in obtaining funding for wastewater systems and promote regional cooperation is undergoing public review.
- Many Cape Cod towns have been active on wastewater issues and several have formed wastewater advisory groups or nitrogen management steering committees.

### **BFDC Wastewater Management Working Group**

Chair:  
John Elwood

Members:  
Chris Bailey  
Tom Moccia  
Barry Motta

*Ex officio*  
John Harding – BFDC Board Chair

Sallie Riggs – BFDC Executive Director

## **HISTORY OF WASTEWATER PLANNING IN BOURNE**

Planning for Town sewer systems and wastewater treatment began in 1969 with a study by the consulting engineering firm of Anderson-Nichols. Subsequent studies and reports were done in 1972, 1973, 1974 and 1984. The latter two studies recommended construction of sewers in several sections of the Town. Several alternatives were proposed that involved wastewater treatment plants on both north and south sides of the Canal and included options for both land disposal and Canal discharge for effluent disposal. A 1978 regional Water Quality Management Plan by the Cape Cod Planning and Economic Development Commission (predecessor to the present Cape Cod Commission) recommended wastewater treatment plants in Buzzards Bay Village and Sagamore with effluent discharge to the Canal.

Several Town Meetings failed to move forward with final planning for any Town-wide alternatives largely due to the high cost of sewer construction and also because of objections to the discharge of treatment plant effluent to the Canal since the studies had not found any suitable land disposal sites. The 1975 Ocean Sanctuaries Act actually precluded any discharge of wastewater effluent to the Canal.

The 1984 study by Anderson-Nichols did recommend an alternative for the several Town areas that were having serious problems with on-site disposal systems and recommended sewers for part of Buzzards Bay Village and Hideaway Village with connection to the Town of Wareham wastewater collection system. The plan was accepted by Town Meeting and the sewers and necessary pumping stations were constructed in 1992. In addition, fourteen dwellings in Sagamore were connected to a common septic tank.

## **CURRENT SITUATION**

In 1989, following recommendations made in an 1984 engineering report by Anderson- Nichols, Bourne entered into a 20-year agreement with the Town of Wareham which allows Bourne to send up to 200,000 gallons per day (gpd) to the Wareham wastewater treatment plant. This capacity was loosely based on an allocation of 140,000 gpd from Buzzards Bay Village and 60,000 gpd from Hideaway Village. The Town completed construction of the necessary sewers, pumping stations and force mains in 1992. Although construction costs were paid from Federal and State grants and Town funds, all costs associated with operation and maintenance of the Bourne system as well as a portion of the O&M costs of the Wareham treatment plant are paid by the users.

Currently an average of 114,000 gpd of Bourne wastewater is being conveyed to the Wareham wastewater treatment plant. Since the agreement requires that Wareham approve any future connections when Bourne reaches 90% percent of their allotted capacity or 180,000 gpd, the Town has about 66,000 gpd of capacity available for future connections to the sewer system before reaching this threshold. However, some of this capacity is "reserved" for land-owners who have paid betterment fees over the past years and the agreement with Wareham requires that 10% or 20,000 gpd of capacity be reserved for daily fluctuations in flow. In any event, Wareham has informed Bourne that, although their wastewater treatment plant is currently undergoing an upgrading, there will be no additional capacity available for Bourne in the future.

## **MASSACHUSETTS ESTUARIES PROJECT**

The Massachusetts Estuaries Project (MEP) is a collaborative program by the Massachusetts DEP (Department of Environmental Protection), UMA/Dartmouth, and other agencies directed toward the problem of eutrophication in coastal estuaries and embayments. The overgrowth of algae in many of these areas is resulting in the loss of eelgrass beds, which are nursery areas for many marine species, and has also resulted in fishkills. The primary cause of the overgrowth is the inflow of excessive quantities of nitrogen. The principal sources of the nitrogen are: septic tank leachate in the groundwater, lawn fertilizers, and other sources in surface runoff.

The MEP is studying eighty-nine estuaries and embayments in Southeastern Massachusetts. The Back River in Bourne is among a group of twenty that were selected for the initial phase of the project. Several other Bourne estuaries are included in the remaining group. The MEP will map areas contributing nutrients, locate sources and determine the nutrient load that each water body can tolerate, termed a nitrogen loading threshold. This information will be given to communities in the form of total maximum daily loads (TMDLs) for their use in developing watershed nitrogen management plans as required under the Federal Clean Water Act.

Field work relating to the Back River watershed has been completed and DEP expects to present the TMDL for this estuary to the Town in spring of 2006. The Town will then have three years to develop a nitrogen management plan. This plan will undoubtedly include some form of wastewater treatment.

### **State Department of Environmental Protection**

The Department of Environmental Protection has ultimate jurisdiction over any discharge for either discharge to surface waters or subsurface disposal. DEP directly issues permits for any wastewater discharge that exceeds 15,000 gpd and also enforces compliance with water quality standards under the MEP. There are no current state or federal grant programs for wastewater projects but low-interest loans are available under the State Revolving Fund (SRF).

### **BARNSTABLE COUNTY WASTEWATER PLANNING ACTIVITIES**

Barnstable County government has several on-going activities relating to waste water management planning and these include: the Wastewater Implementation Committee and a Blue Ribbon Committee on Wastewater Planning. In addition, the Cape Cod Business Round Table, a subdivision of the Association to Preserve Cape Cod, has become directly involved in County-wide wastewater management planning and funding concerns.

The **Wastewater Implementation Committee (WIC)** was formed in 2002 as an advisory group and is managed by the Cape Cod Commission. Its members represent most of the Cape towns and include representatives from other groups and agencies (Bourne was represented for the first two years but does not currently have a representative). The committee acts as a regional forum on wastewater issues for sharing information between towns, county and state programs, and also provides technical assistance.

The **Business Round Table** is made up of approximately thirty individuals who represent businesses, government, and community and environmental groups on Cape Cod. The group's principal concerns regarding wastewater issues are funding the vast investment in infrastructure and gaining public support. It also argues that the wastewater crisis, until it is resolved, is an impediment to economic development and job growth.

The **Blue Ribbon Committee** has eleven members from public and private groups who were appointed by the County Commissioners to evaluate the efficacy of a regional approach to the wastewater infrastructure problem. The Committee agreed that a regional approach was essential and drafted a proposed County ordinance creating the Cape Cod Wastewater Collaborative.

### **Cape Cod Wastewater Collaborative**

On July 27, 2005 the Barnstable County Assembly of Delegates began the review process for a proposed ordinance creating the Cape Cod Wastewater Collaborative. Following public hearings the ordinance was voted by the Assembly in Fall 2005.

Following is the mission statement for the Collaborative:

*"To offer a coordinated approach to enhance wastewater management efforts of Towns, the Regional Government and the Community, and to provide cost-effective and environmentally sound wastewater infrastructure, thereby protecting Cape Cod's shared water resources."*

The Collaborative's goals are: to attract state, federal and private revenue sources for the towns, to maximize regional cooperation and to educate the public on the importance of wastewater management.

The Collaborative is open to all Cape towns but town leaders must decide whether or not to join and at what level to participate. All members have a seat on the governing panel. A steering committee made up of five panel members acts as an executive committee and may employ an Executive Director as well as a technical and administrative staff.

In the spring of 2006, the Bourne Selectmen voted to join the collaborative and appointed a representative.