

## **Appendix D**

**Excerpt from “Town of Milton Wastewater System  
Expansion Study, February 2008”**

## **SECTION 7 FUTURE PLAN**

Based on the projected wastewater flows developed by the Town, as discussed in Section 5, and the Town's goal to sewer all of the areas that are currently within the sewer service area but are not on Town sewer, recommendations were developed for the future sewer system expansion. Specific items for expansion of the existing sewer system, pump stations, and forcemains are described in the following sections.

In a meeting with Andrew Legg, the Town Engineer, Roger Hunt, the Water/Wastewater Superintendent, and Regina Mahony, the Planning Director, specific areas within the Town's sewer service area were identified as priority areas for sewer expansion. These included areas within Sewer Service Area No. 3, known as the Village Core, Sewer Service Area No. 4, known as Beaverbrook Residential, and several other streets within Sewer Service Area Nos. 2 and 6.

The sewer expansion of the Village Core, Beaverbrook Residential and the other miscellaneous sewerline extensions in Sewer Service Area Nos. 2 and 6 have been divided into different projects as discussed in detail below. The project's have been prioritized due to their impact on economic development, their feasibility for Tax Increment Financing (TIF) funding, and their overall cost to sewer service user benefit. The proposed sewerline alignments for each of these projects is shown as Figure No. 4 in Appendix A.

### **7.1 VILLAGE CORE**

The Village Core is shown as Sewer Service Area No. 3 on Figure No. 2 in Appendix A and is made up almost entirely of the Downtown Business District and MCMP Center zoning districts, refer to Appendix B. Also included in this project are three (3) parcels from the Beaverbrook Residential zoning district and two (2) parcels from the MCMP Municipal/Recreation zoning district. This project has the highest priority due to its impact on economic development and its eligibility for Tax Increment Financing (TIF) funding.

The sewer expansion of the Village Core involves constructing sewerlines in two (2) phases, shown as Figure No. 5 in Appendix A. The phases are discussed below:

#### **7.1.1 Phase I**

The first phase of the Village Core project involves constructing a new wastewater pump station and forcemain on Town land along Middle Road and installing gravity sewers along U.S. Route 7, Haydenberry Drive, Bombardier Road, Centre Drive, and Middle Road from the proposed pump station to U.S. Route 7. The pipe sizes range from 8" to 12" depending on the necessary pipe slope and elevation requirement necessary to connect to the existing sewers on Haydenberry Drive. There are approximately 41 parcels from Sewer Service

Area No. 3 and three (3) parcels from Sewer Service Area No. 4 that will benefit from the sewerage of this phase of the project. They are made up of approximately 26 residential and 18 commercial parcels, including the Town Municipal Offices along Bombardier Road.

The existing change in topography of the land within this phase is so minimal that a field survey was conducted along Bombardier Road, Centre Drive, and U.S. Route 7 in order to determine the existing grades along the proposed sewerlines. The data obtained from the field survey resulted in the need for 12" gravity sewers along U.S. Route 7 in order to maintain a shallow enough slope for the pipe to meet the elevation requirement of the existing sewer manhole on Haydenberry Drive.

The average daily flows projected for the 12" gravity sewer along this portion of U.S. Route 7 are approximately 137,000 gpd. Concerns were raised by the Town with regards to the shallow pipe slope. Due to the relatively flat topography, this is the minimum pipe size and corresponding maximum slope that will allow this phase to connect with the existing system. The addition of flow from the Middle Road pump station will provide some assistance in moving the wastewater through this reach of pipe on U.S. Route 7, reducing the risk of clogging.

Wastewater from this phase of the project will gravity flow south along Middle Road and Centre Drive, and east along Bombardier Road to the new pump station located along Middle Road. The wastewater will then be transported through a 6" forcemain north on Middle Road to a new sewer manhole located at the intersection of U.S. Route 7. Wastewater will then flow southwest along U.S. Route 7 and connect to the existing 8" gravity sewers along Haydenberry Drive. The proposed Middle Road pump station will be a standard above ground, self-priming duplex pump station with precast concrete wet well capable of handling an average daily flow of approximately 118,000 gpd and peak hourly flow of 246 gpm.

The estimated 2007 construction cost for Phase I of the Village Core project is \$1,195,000 and a detailed breakdown is provided in Appendix E. It should be noted that the construction cost estimate does not include additional costs for work performed outside of the Town right-of-way and/or mainline easements.

### **7.1.2 Phase II**

The second phase of the Village Core project involves constructing gravity sewers along U.S. Route 7 and Railroad Street from Barnum Street south to the U.S. Route 7 / Railroad Street intersection, with two (2) short spurs on Villemaire Lane. The pipe sizes range from 8" to 12" diameter depending on the existing slope and elevation requirement necessary to connect to the Phase I gravity sewers. There are approximately 63 parcels that will benefit from the sewerage of this phase of the project. They are made up of approximately

42 residential and 21 commercial parcels.

A portion of the wastewater from this phase will gravity flow north along U.S. Route 7 from Villemaire Lane to the Lamoille Terrace gravity sewers. The remaining wastewater generated from the parcels in this phase will gravity flow south along U.S. Route 7 and Railroad Street to the Phase I gravity sewers along U.S. Route 7.

The estimated 2007 construction cost for Phase II of the Village Core project is \$965,000 and a detailed breakdown is provided in Appendix E. It should be noted that the construction cost estimate does not include additional costs for work performed outside of the Town right-of-way and/or mainline easements.

## **7.2 BEAVERBROOK RESIDENTIAL**

Beaverbrook Residential is shown as Sewer Service Area No. 4 on Figure No. 2 in Appendix A and is made up almost entirely of the Beaverbrook Residential zoning district, refer to Appendix B. In addition, there are approximately nine (9) parcels from the MCMP Center zoning district located along Whisper Lane and Ducks Court that will also be sewerred as part of this project. The sewer expansion of the Beaverbrook Residential project will involve constructing sewerlines in three (3) phases as shown on Figure No. 6 in Appendix A. The sewerred of this project is dependent on the Village Core Phase I pump station and sewers being previously constructed.

### **7.2.1 Phase I**

The first phase of the Beaverbrook Residential project involves constructing a new pump station on the south end of Beaver Brook Road with a 4" diameter forcemain and installing gravity sewers along the following streets: Beaver Brook Road, Russell Circle, Middle Road from the Village Core Phase I pump station south to Russell Circle, Meadow Road, Kingswood Drive, Woodcrest Circle, Hemlock Road, Pinewood Lane and Griswold Drive. There are approximately 280 residential parcels that will benefit from this phase of the Beaverbrook Residential project.

Due to the existing topography of the land within this area, the wastewater will flow south to a new pump station located within the cul-de-sac at the end of Beaver Brook Road. The proposed Beaverbrook Road pump station will be a standard above ground, self-priming duplex pump station with precast concrete wet well capable of handling an average daily flow of 67,000 gpd and peak hourly flow of 140 gpm. Wastewater from this pump station will be pumped through a new 4" diameter forcemain along Beaver Brook Road then travel west cross-country to Russell Circle and then north on Middle Road to the Village Core Phase I pump station. In order to minimize construction costs, the forcemain will be located within the same trench as the gravity sewer along this route.