TO: Littleton Sewer Feasibility Study Committee  
FROM: Natural Systems Utilities (NSU)  
DATE: August 12, 2011  
RE: Progress Report

As requested by the Littleton Sewer Feasibility Study Committee, NSU has prepared this progress report on work completed for the Smart Sewering Feasibility Study. This report has also been edited by Charles River Watershed Association (CRWA) CRWA to simplify and improve clarity.

Below you will find the list of top level tasks as outlined in the initial RFP and our Scope of Work. Under each task we have identified the degree to which each is complete, actions that are currently in progress, and any further information needed or work to be done.

**Task 1: Prepare Background Info – 100% Complete**

NSU thoroughly explored state, county, and Littleton town maps and documents to gain both a broad and detailed picture of the geography and development patterns of Littleton and the surrounding region. CRWA provided key documentation regarding flow patterns and watershed delineation for the project. In addition, NSU investigated surrounding Towns in Massachusetts, such as Acton and Tyngsborough, who encountered sewering issues in the construction and maintenance phases respectively. Understanding the pitfalls these towns encountered is crucial to avoiding similar problems in Littleton.

Federal and state regulatory documentation provided a second key portion of the background research and documentation phase of the analysis. NSU worked to develop a strong understanding of 314 CMR 2,3,5,15 and other Massachusetts regulations in order to better comprehend what is feasible based on permitting regulations.

**Task 2: Conduct Site Visit and Stakeholder Meetings – 100% Complete**

Following a site visit / town walkthrough, NSU conducted a public workshop in Littleton on May 26, 2011. At this meeting, participants were asked to look at an aerial map of the overlay districts and identify areas of concern and opportunity with regard to consideration of natural features, discharge locations, residential areas, known habitats, and any future build out plans that would affect the location of a natural or conventional treatment system. Participants were most interested in improving the downtown shopping area while preserving farmland and other sensitive environments in town. Residents also provided critical information regarding current treatment systems and their function. Though the turnout was small, it was an important first step in learning how best to incorporate the people of Littleton into the planning and design process.
An online survey was created and provided to the town in late June 2011 to gain additional information from residents. The survey was geared towards understanding whether residents were primarily concerned with economics, environment, or social constraints in relation to the sewering of Littleton. The survey gave residents the opportunity to provide general opinions and suggestions regarding the smart sewering study and the prospect of sewering within Littleton. The results of this study showed that economic concerns were most important followed by environmental and social issues. A statistical analysis was run on the data to better understand which questions were of utmost importance to residents within each category. CRWA is preparing a one-page summary about the project to accompany the release of the survey results to the public.

In addition to working directly with the residents of Littleton, NSU has conducted biweekly Project Team calls with CWRA and Don Zizzi (the Team’s economist / planner) to gather data, provide updates, and discuss the progress of the market study, build out analysis, and technical feasibility analysis. In addition, these meetings have provided a critical forum for the discussion of opinions and the sharing of ideas. These calls will continue to take place over the course of the project with additional meetings to ensure strong communication between participants and to maintain progress. Additionally, Littleton staff and the utility director have been very helpful in providing information that is pertinent to our study.

**Task 3: Prepare Market Study / Build out Analysis – 50%**

Because NSU’s approach to wastewater management is fit-for-size, NSU is working in tandem with the economist / planner to develop an iterative analysis. For example, the team has evaluated build-out at a 5-year range for non-residential growth and the associated wastewater / water needs for that result. Next, a 10-year buildout will be analyzed, then 15-year and up to a 20-year buildout. The purpose of this iterative approach is to understand the market for population and economic growth in the community and to appropriately size any wastewater treatment solution to match the demand of the growing community.

The Team’s economist / planner evaluated the local demographics to determine a phased buildout approach for key sites in the downtown. National and regional economic data as well as local demographic and development data were also analyzed to determine the most likely phased buildout within the sewer feasibility study area in downtown Littleton. The analysis has been summarized into the following regional outlooks.

**National**
- quarterly growth rate in GDP less than 2% for 2011 and predicted to be below 3.3% for 2012
- money supply has not been growing
- building permits are both low and flat since 2008
- export orders are down again after modest gains
• interest rate yield curve has been very low (plots yield of treasury bonds)
• existing home sales at a nine-month low
• significant excess capacity remains in the global economy
• European debt will likely remain a drag on the economic recovery

New England
• recovering from the financial crisis more quickly than national
• healthier residential and commercial real estate markets
• better-capitalized financial institutions
• expected unemployment rate above 8% until 2012
• long-term employment growth expected to be well below national

Massachusetts
• strengths - greater percentage of knowledge based firms, a highly educated workforce, large percentage of federal defense spending,
• weaknesses - high cost of doing business, low housing affordability, very low population growth
• residential housing sector depressed (home sales declined at greater than 10% for 2006-2009, increased 4% in 2009, then decreased 3% in 2010)
• industrial/R&D space has 10/13.6 vacancy rate in Easter Massachusetts
• MAPC regional population growth projections for 2000 to 2030 is 9%
• expected unemployment rate for MA is about 6.5%

I-495 Area
• industrial/R&D/commercial space has 12.1/16.3/20% vacancy rate
• expected growth in Framingham/Natick/Worcester Shrewsbury/Westborough/Westford area
• steady decline in the sales of existing single family homes over decade especially last 3 years
• rate of new business filings has declined at an average rate of 4% per year since 200
• 12 communities added jobs but 6 lost jobs since 2001

Littleton
• lost more the 1,000 jobs since 2001
• had 48/44 new business filings in 2000/2009 or 3/2% of the region’s total
• expected population growth of about 1,000 people over next 25 years

For the first five-year phase of our analysis, it is reasonable to assume that little development will occur within the study area with the exception of the proposed lifestyle center and perhaps a portion of the former “40B” development site. It is also reasonable to conclude that if the proposed lifestyle center is to be developed, it also will be constructed in phases; and it will absorb most of the demand for traditional and specialty retail plus dining and related leisure spending and fully saturate the market severely limiting any demand for significant new commercial development in the Village Common area.
Meetings are planned within the next few weeks with the principals of the major development sites within the study area (including IBM, Cisco, 40B) to further refine the most likely mid- and long-range buildout scenarios. CRWA has already developed a buildout model whereby wastewater flow volumes can be reasonably predicted for the timing and intensity of development for 10-year, 15-year, 20-year, and 25-year time horizons. Reasonable development scenarios will be used to estimate future wastewater load to appropriately size future wastewater treatment solutions. These solutions will match the need of the community and allow analysis of economic feasibility.

Tasks 4-7 are each about 20% complete as we have been analyzing parcel and demographic data for the downtown areas and determining a water balance for the entire community through an iterative process. These tasks have occurred in parallel to the first three tasks. We are working closely with our economist to project population and economic growth to determine a fit-for-size approach to wastewater treatment alternatives.

To keep in line with our initial timeline, we anticipate submitting a draft report to the Littleton Sewer Feasibility Study Committee by the end of September. We trust you will find this information useful as an update on our progress with this project.