

## FREQUENTLY ASKED QUESTIONS

### ARTICLE 20 - ROUTE 20 SEWER SYSTEM DESIGN AND PERMITTING

#### 2011 ANNUAL TOWN MEETING

The Town of Sudbury relies almost entirely on individual on-site septic systems for disposal and treatment of wastewater. On-site septic systems generally work well in the residential areas of the Town; however, relying on on-site septic systems in commercial areas poses significant environmental and economic challenges.

Since 1999 the Town has analyzed the wastewater treatment issue; based on this analysis the Town believes that the solution to the on-site septic challenges is the installation of a **Decentralized Wastewater Treatment System** for the commercial corridor along Boston Post Road. This project is at the core of the Sudbury Master Plan as the predominant means of long term protection of our water supply, and the creation of a sustainable economic development strategy to relieve our reliance on residential property taxes. The 2011 Annual Town Meeting Warrant Article 20 proposes raising approximately \$1 million for the design and permitting of a wastewater treatment system which would serve all properties on Boston Post Road (Route 20) from approximately Massasoit Avenue to Lafayette Drive, as well as the commercial properties on Concord Road, Union Avenue and Station Road.

#### *Why do we need to be concerned with wastewater treatment along the Route 20 corridor?*

The Board of Selectmen, working with the Route 20 Sewer Technical Advisory Committee, has advanced this project over the last 10 years from feasibility to reality. The 1999 Wastewater Needs Assessment, developed by Weston & Sampson Engineers, clearly demonstrated that the commercial properties along Route 20 are experiencing difficulty in treating and disposing of wastewater due to poor soil conditions and shallow depth to groundwater. The physical inability to properly dispose of wastewater leads to costly repairs and replacement of systems and the inability to attract certain types of businesses, particularly food services. The severity of the problem may eventually require businesses to shut down or move as the naturally occurring soils required for septic treatment are depleted, leaving no options for on-site disposal. Years of testing by the property owners have found limited soil suitability, if any, to expand the existing commercial septic systems.

Advanced wastewater treatment is necessary to protect the adjacent aquifers which provide Sudbury's drinking water; to prevent businesses from moving out of Sudbury and the loss of commercial tax revenue; and to accommodate business growth and revitalization along the Route 20 corridor.

#### *How much money has the Town spent to date to study this issue?*

Over the past 12 years the Town has appropriated a total of \$135,000 for this project, with an additional \$60,000 contributed by the Route 20 businesses and the Sudbury Foundation. These funds produced a Needs Assessment in 1999 which tabulated the wastewater usage of the entire corridor's businesses, identified the seriousness of the problem and prioritized areas of critical need for alternative wastewater treatment. From 2001-2009 numerous properties were investigated for suitability as a groundwater recharge system (i.e., leaching field) for the project. In 2009, the Curtis Middle School field site became an apparent possibility, and hydrogeological investigation of this site was completed in 2010. Currently our consultants are working on an updated Needs Assessment and a Project Engineering Report which is needed to gain state-approved financing of the project.

### ***What is a Decentralized Wastewater Treatment System?***

Traditional sewer systems typically convey wastewater (and stormwater) from expansive areas, long distances to a centralized treatment plant. Centralized sewer systems usually serve an entire town, are very expensive to build and maintain, pose challenges for containing development, and can redirect treated wastewater outside of watersheds, which reduces the ability to replenish groundwater supplies. On-site septic systems, on the opposite end of the spectrum and what Sudbury relies completely on, require a large land area to treat wastewater, and as they age are very prone to failure, creating unsanitary conditions, impaired water quality, and the need for expensive repairs. Decentralized wastewater treatment systems occupy the middle ground between on-site septic systems and traditional sewer systems.

Decentralized wastewater treatment systems are located in closer proximity to the source of wastewater being managed. Wastewater from multiple buildings is conveyed to a treatment facility where it is treated and then flows or is pumped to a groundwater recharge system where it percolates through the soil back to the groundwater supply. Decentralized systems address the limitations of on-site septic systems as they provide a much higher level of treatment before wastewater leaches back into the groundwater supply, and are monitored, which makes them much less prone to failure. Likewise, decentralized systems address the limitations of centralized sewer systems. They are more affordable to build and maintain and they recycle cleaned wastewater back to the groundwater supply. Finally, unlike on-site septic systems, which require large areas for wastewater treatment, and centralized sewers, which promote sprawling development patterns, decentralized wastewater systems can play a critical role in supporting compact development and redevelopment.

### ***What Would a Decentralized Wastewater Treatment System Look Like in Sudbury?***

Sudbury's system would consist of pipes laid under the roads within the service area, pump stations to move the effluent properly, a treatment plant building and a groundwater recharge system. No land acquisition would be required for this project; the Town currently owns a suitable site for the treatment plant at 641 Boston Post Road, the former Bushey property. This site is located within the Route 20 corridor and is situated away from developed residential areas. The treatment processes and machinery would be sited on this parcel completely within a building designed to look either like a barn, or some other appropriate structure for the site. The facility would include an odor control system, so no odors are anticipated to be noticeable from outside the building. The building would not block the existing trail head parking or interfere with the existing use of the property for conservation access.

After several years of searching, it was determined that the closest appropriate site for the groundwater recharge system is located on the Curtis Middle School property, also endorsed by the Town. Cleaned and treated water would be pumped 1.7 miles from the treatment facility under Horse Pond Road to a groundwater recharge system located beneath the athletic fields at Curtis Middle School, where it would percolate into the ground and replenish the aquifer. While this would interrupt the use of the Curtis athletic field temporarily during construction, the field would be fully useable upon completion. The Sudbury Public School Committee supports this project and the use of Curtis as a means of creating a sustainable economic future for Sudbury.

### ***How can a Decentralized Wastewater Treatment System Address Environmental Challenges?***

Reliance on on-site septic systems in Sudbury's commercial corridor has created an environmental challenge for the Town. Continued on-site septic use will allow environmental risks to continue. These risks are linked to soils along the corridor and the groundwater underneath it. Soil plays a critical role in treating wastewater as it leaches back into the groundwater aquifer. Septic systems require sufficiently

permeable soil for water to move through and back to the groundwater aquifer. Adequate depth of soil ensures the wastewater is in contact with soil material for a sufficient period of time for treatment to take place. Unfortunately, the soils along Boston Post Road generally have moderate to severe limitations for on-site septic treatment, which makes individual systems more prone to failure. Additionally, the water table is generally high in this area, which increases the chance of on-site septic system failure by effectively reducing the depth of soil needed for treatment to take place.

All of Sudbury receives its drinking water from underground aquifers situated in various locations throughout the Town. The majority of the Boston Post Road corridor identified to be serviced by a decentralized wastewater treatment system sits above the Raymond Road Aquifer. This area is approved by the state's Department of Environmental Protection as a Zone II wellhead protection area, which means that the aquifer provides water for wells in the Sudbury drinking water system. Almost 60% of Sudbury's drinking water comes from the Raymond Road Aquifer area. Existing failing and inadequate septic systems along the corridor pose a potential threat to public drinking water supplies in this area. Installing a decentralized wastewater treatment system to service the commercial properties along Boston Post Road will address environmental issues associated with the area's poor soils and the area's role in providing public drinking water. It will accomplish this by aggregating wastewater from multiple commercial properties, conveying it to a treatment facility where it is treated and then allowed to percolate back into the groundwater aquifer in an area of the Town that is not designated for wellhead protection.

#### ***What are the Potential Economic Benefits of Installing a Decentralized Wastewater Treatment System?***

Currently, most commercial properties along Route 20 cannot expand due to septic system limitations. Reliance on on-site septic systems severely limits the ability for property owners along the corridor to attract new tenants, particularly restaurants and food services like grocery stores. Restaurants create significant amounts of wastewater but are a critical component of successful retail/commercial areas. Restaurants such as Panera Bread and Bertuccis have both expressed interest in locating in Sudbury, however without a sewer system there are no sites in Sudbury where they can be accommodated due to their wastewater needs. Additionally, due to the physical constraints along the corridor, septic systems fail more frequently resulting in costly repairs and maintenance, which hurts the bottom line of businesses and results in reduced property values. Commercial property owners in the Route 20 area have spent over \$3 million repairing or replacing their septic systems over the past 10 years, and will be faced with similar costs over the next 10 years.

Installing a decentralized wastewater treatment system along the corridor would eliminate the costly financial burden of frequent septic system repairs, create opportunities for new tenants, allow property owners to reinvest and redevelop their properties knowing that potential increased wastewater will be managed effectively, and allow the corridor to better compete with surrounding commercial areas, particularly the new Wayland Town Center. Sudbury's commercial corridor is at a competitive disadvantage because of its wastewater treatment challenges.

#### ***What Does the Town Envision for Route 20 in the Future? Will Sudbury's Commercial Corridor be Able to Grow After Sewers are Installed?***

Soon after Town Meeting concludes the Town will initiate a public process involving residents and businesses to begin planning for the future of Route 20 with decentralized wastewater. A Citizens Advisory Committee (CAC) will be formed, which will include subcommittees on creating a vision for Route 20, writing zoning bylaws, defining the sewer service area, preparing bylaws and regulations for the sewer district including its operation, planning for other Route 20 streetscape improvements to be

executed during the construction period, and other issues. The CAC will be the catalyst for zoning changes directed by the residents and businesses. There are many good examples in Massachusetts of successful mixed use business districts and corridors, and studying these examples will be the cornerstone of this effort. Preserving the character of Sudbury and creating development opportunities without allowing overdevelopment is of utmost concern, therefore adopting proper zoning controls needs to be carefully studied and executed.

Even without any zoning changes at all, the proposed wastewater system would be designed and constructed to handle approximately 50% additional flow from the existing properties in the service area. This would allow additional restaurants to locate in the existing shopping plazas, accommodate the renovation of vacant 2<sup>nd</sup> floor office space into residential units and allow for expansion of existing properties where all other zoning bylaws are complied with.

It is possible that sewerage Route 20 may provide wastewater options for more dense residential development in the form of multi-family housing (such as developments using 40B zoning), however state guidelines for 40Bs do not promote or advocate for densities above 12 units per acre for suburban sewerage areas. Additionally only properties which directly front on the sewer line would be eligible to utilize it for wastewater disposal. Most of the Route 20 residential properties are small, with the majority being less than 1 acre in size. Even if aggregated, they would not support large-scale residential development. The cost to hook into the sewer for small multi-family housing development would generally cost more than constructing a conventional septic system, therefore the sewer may actually be a deterrent to this type of development. It is doubtful that commercially zoned properties would be redeveloped for residential use, as the value is higher for commercial use.

#### ***How will Sudbury Control Increased Development Pressure that will Result from the Installation of a Decentralized Wastewater Treatment System?***

Sudbury has a long and successful history of using traditional land use controls to provide a regulatory landscape that promotes development that fits into and enhances Sudbury's traditional development patterns. Looking forward, the Town will identify enhanced regulatory mechanisms that may be employed to ensure accommodative growth along Boston Post Road after the installation of a decentralized wastewater treatment system, such as overlay districts and mixed use zoning. Mixed use zoning, where residential and commercial uses are developed together, is an effective method of creating vibrancy and critical mass in commercial districts.

#### ***What other alternatives has Sudbury explored for wastewater disposal?***

Over the nine or so years that the Route 20 Sewer Technical Advisory Committee worked to find a suitable parcel for the groundwater recharge system, they also explored possible alternatives to constructing a decentralized plant in Sudbury. Framingham is a member of the Metropolitan Water Resource Authority (MWRA), and hooking into that system was one option investigated. However, there were more cons than pros – removing wastewater from Sudbury would be considered an out-of-basin transfer of water resources by DEP, and is highly discouraged, particularly for communities that rely on groundwater supplies for their drinking water. The historical high cost of MWRA services was also a deterrent. Framingham also does not have the capacity to incorporate Sudbury's needs into their system without costly upgrades.

Piping our wastewater to the City of Marlborough's Easterly Treatment Plant was also investigated, since that plant is located fairly close to the Sudbury town line. This alternative was rejected based on the high cost of pumping raw sewage, as well as for political reasons, since Sudbury and Marlborough have litigated over the exceedance of the EPA permit for discharge from this treatment plant into Hop Brook,

which causes eutrophication of the ponds and streams in and through Sudbury. Adding additional wastewater to this system was thought to be an alternative that would not be popular with Sudbury residents.

Installation of large, community septic systems is sometimes a method of wastewater discharge for parcels of land with unsuitable soils. However, there is no land area within the Route 20 business area that has suitable soils, and most of the area is within the direct recharge zone to the town's water supply.

In addition to the Curtis Middle School a number of other parcels were investigated, and soil tests were conducted on several of them. The DPW property on Old Lancaster Road, and Haskell Field on Fairbank Road were among those tested but were rejected due to soil conditions and/or insufficient infiltration capacity. The Stone Farm on Horse Pond Road and Cavicchio's greenhouses on Union Avenue were logical properties to explore, however they are in private ownership and the owners of these properties are not interested in using their land for this purpose. Parcels located south of Route 20 were determined to be too close to the drinking water wells to meet DEP standards for travel time for the leachate. Many other parcels were explored and rejected. The Curtis Middle School parcel is not only the town's best option, but it may be the only one. The soils there have been determined to be highly suitable for infiltration, with a good depth to groundwater. The proposed leaching field location provides ample space to infiltrate the entire volume of wastewater needed, without impact on the school's septic system or neighboring properties.

***What will happen if we don't install a sewer system for the commercial corridor?***

If this project does not advance, the environmental challenges discussed above will continue, and will likely get worse. Businesses will find it increasingly difficult to discharge wastewater due to saturated soils and more stringent regulatory requirements, and may need to relocate to other Towns where the soils are better or sewers are available. The threat of contamination of the drinking water supply will also continue.

***How is Sudbury Proposing to Pay for this Project, and what will be the Cost to the Average Taxpayer?***

The project is broken down into 2 distinct phases - the design and permitting phase, and the construction phase. Design and permitting would involve designing the treatment plant (components, size, and type of treatment process), the piping in the roadway and the groundwater recharge system at the Curtis Middle School, as well as the Dept. of Environmental Protection groundwater discharge permit and the Mass. Environmental Protection Act (MEPA) permitting. This phase would be completed in approximately 18 months and is estimated to cost approximately \$1 million. Currently this phase is being proposed to be apportioned between all taxpayers in Sudbury – residential and commercial. The cost would be borrowed over a 5 year period (as allowed by law), resulting in a total cost of \$175 to the average residential taxpayer with a home assessed at \$628,000 and \$300 to the average commercial taxpayer with a business assessed at \$810,000.

With Sudbury's current split tax rate, a heavier burden is being placed on the commercial taxpayers than the residential payers in this scheme. However, the entire burden is not being placed on the commercial taxpayers, as there would be a benefit to all Sudbury residents if and when the sewer is installed and the groundwater supply, which serves all Sudbury residents, is secured and protected. In addition, not all of the commercial properties in town would be served by the proposed sewer. It is anticipated that all residents would also benefit when the planned infrastructure improvements create the opportunity for Sudbury's commercial sector to expand and raise additional revenue. This first phase is viewed as an investment in Sudbury's future.

The second phase is the construction of the system, which would involve building the treatment plant at 641 Boston Post Road, laying the pipes in Route 20 and Horse Pond Road, and constructing the groundwater recharge system at the Curtis Middle School. This phase is currently estimated to cost approximately \$14 million, however the Town would have much better information on the cost of the construction phase once the design is complete. A final decision has not been made on how the construction cost would be apportioned between taxpayers, however it is anticipated that a large share of the cost would be recovered through the assessment of betterment fees on the properties which are in the service area, since those properties would receive a “specific benefit” from the infrastructure improvement. A betterment is a onetime tax that can be paid in one lump sum or financed by the Town over a maximum period of 20 years. The amount of the betterment is typically calculated based on a property’s usage of the wastewater treatment plant, so as an example, a single family home that fronts on Route 20 within the sewer service area would pay a fee based on their usage of approximately 330 gallons per day, while the Shaw’s plaza would pay a betterment fee based on their usage of approximately 8,000 gallons per day. In many Massachusetts’ communities, both betterment fees and taxation are used to pay for wastewater projects, since the vitality of the commercial district and the tax revenue it brings in is a “general benefit” to all residents. The Town is confident that a fair and equitable arrangement can be approved which does not overburden any one property owner or sector. The construction phase is anticipated to take approximately 24 months to complete. Ongoing operational costs of the treatment facilities would be paid completely by the users of the system.

Providing necessary infrastructure to shape a town’s future has historically been a municipal function, and this project is no different. Just as the business community in Sudbury provides our local services and generously supports many school activities and local fundraising events, residents are now being asked to partner with the commercial property owners to help build a more sustainable business community. Much is on the line for Sudbury as we embark on this project. Now is the time to either commit to a long term project which has many attributes, including the protection of our drinking water supply and economic development opportunities that have been discussed for decades, or pass the opportunity by.