

EAST MONTPELIER VILLAGE MASTER PLAN
WASTEWATER STUDIES SUMMARY & DISCUSSION QUESTIONS
April 7, 2016

A study was completed in **2007** by Forcier Aldrich & Associates and was subsequently updated in **2008**, analyzing wastewater needs and options for service for the Town of East Montpelier. The **2007** report looked at study areas in East Montpelier Village and North Montpelier, and eight alternatives for managing wastewater. These alternatives were mostly focused on soil-based treatment methods, and were limited to options that would be located within the Town of East Montpelier.

The eight alternatives include on-site remedies, off-site remedies, or some combination of both to address failing septic systems or areas where failures were expected. A few alternatives also considered clustering of wastewater disposal systems.

The **2007** report contains details regarding alternatives and information on various types of wastewater alternatives that could be feasible for the Town of East Montpelier including low flow plumbing fixtures, gray water separation, composting toilets, holding tanks, and similar techniques. The report also provides information on community based systems such as gravity flow sewer, grinder pumps, and low pressure systems, however all of the alternatives identified in the 2007 report still rely on soil-based disposal as the final treatment method.

The **2007** report also included information related to a community survey and a buildout analysis that was done in conjunction with the CVRPC. The buildout analysis noted that in both study areas (East Montpelier Village and North Montpelier Village), the parcels that had existing development were essentially fully built out based on existing zoning. However, East Montpelier Village had undeveloped with significant development potential. North Montpelier had few undeveloped parcels and therefore limited future development potential. The projected buildout for both areas was estimated between 400 and 450 new equivalent residential units (estimated at 210 gallons per day per unit).

Based on cost effectiveness, the 2007 report recommended implementing Alternative 2 – Manage existing systems with individual solutions for failed and marginal sites. This alternative addressed failed systems and marginal sites, but does not allow for growth with increased density. The **2007** report also recommended that the Town educate property owners about the transition from town regulation of septic systems to state regulation of these systems. Additionally, the report recommended a Wastewater Management Action Plan to track existing and failed systems, and to educate property owners about failed system replacement options and funding sources.

The **2008** update provided information on centralized options for treatment of wastewater in the Village of East Montpelier through a possible connection to the City of Montpelier or the Town of Plainfield. The 2008 update concluded that connection to Plainfield was unlikely because Plainfield wanted to reserve their wastewater treatment capacity for their own growth. Connection to Montpelier was a potential option, under terms similar to those for the Town of Berlin's sewer connection to Montpelier.

The **2008** update recommended that the East Montpelier Village potential sewer service area be expanded to include the Route 14 S corridor and the Packard Industrial Park. Increasing the service area would maximize potential customers and help distribute the costs.

The **2008** update evaluated the potential and costs for two sewer routes to connect to Montpelier's system. The first route follows Route 2 west to connect to a Montpelier manhole at Gallison Hill Road. The second route follows Wheeler and Gallison Hill Roads to connect to a Montpelier manhole at U-32. Detailed cost estimates include all the necessary infrastructure to make the connections including gravity lines, force mains, manholes, pump stations, and construction costs. The cost estimates do not include connections to private property or deactivation of existing on-lot disposal systems.

Here is a selection of alternatives and total project costs from both reports:

- 2007 Alternative 2 – Manage existing systems with individual solutions for failed and marginal sites. Total project cost varies, but ranges from \$7,500 to \$38,000 depending on individual site conditions (2009 dollars)
- 2007 Alternative 4 – Onsite management plus small clusters for individual marginal and failed sites. Total project cost is \$4 million (2009 dollars).
- 2007 Alternative 5 – Onsite management plus large clusters for marginal and failed sites. Total project cost is \$4.4 million (2009 dollars).
- 2007 Alternative 6 – Offsite management with large cluster for all sites. Total project cost is \$9.5 million (2009 dollars).
- 2008 Sewer route #1 – Connect to Montpelier sewer via Route 2. Total project cost is \$9.25 million (2010 dollars).
- 2008 Sewer route #2 – Connect to Montpelier sewer via Wheeler and Gallison Hill Roads. Total project cost is \$8.08 million (2010 dollars).

Only Alternative 6 and the Montpelier sewer connection alternatives are identified as enabling higher density growth.

The **2008** report confirms the recommendation of the **2007** report which is to follow Alternative 2 – Manage existing systems with individual solutions for failed and marginal sites. This recommendation from both reports is based on the overall cost of the identified alternatives. This recommendation is reinforced by detailed cost estimates for the alternatives that include connections to the centralized treatment by the City of Montpelier.

Additional Information

Advancements in technology have increased options and decreased the overall costs of wastewater treatment. These technologies include membrane bioreactors, sequential batch reactors, and reverse osmosis technologies. Most advanced wastewater treatment options utilized for small communities or service areas are self-contained, require minimal maintenance, and are expandable to accommodate future growth.

The State of Vermont recognizes multiple options for advanced or innovative treatment technologies and considers options on a case-by-case basis.

Construction costs have increased which may still be prohibitive when additional wastewater options are evaluated.

DISCUSSION QUESTIONS

1. Is there still an active Wastewater Advisory Committee?

The committee still exists but has been inactive for a number of years.

2. What were the original concerns and objectives that resulted in the wastewater studies being conducted? (e.g., failing septic systems, Winooski River water quality, desire for village growth, etc.)

The Selectboard began discussing wastewater issues in 2005 due to failing systems in the Village. The Planning Commission wanted to discuss future growth potential and noted that wastewater and three phase power were going to be the primary constraints to future development in the Village.

3. How were the two wastewater studies funded? Do any of the study costs need to be repaid if a system is constructed?

The studies received funding with money from the State (approximately \$25,000 and \$10,000) with the expectation that if further funding or loans were applied for through the state, this money would need to be paid back in conjunction with the new loans.

4. Did the studies assume that all capital, operating and administrative costs would be borne by the serviced properties? (i.e., no costs borne by the entire town)

This question wasn't addressed.

5. The build-out analysis assumes zoning goes from 1 acre to $\frac{3}{4}$ acre. Why did the Planning Commission recommend this density?

There was no specific reason to assume $\frac{3}{4}$ acre lot sizes other than it would increase density but still have large enough lots to accommodate wells and septic systems in most locations. There was no science involved, it was just a compromise between too big and too small.

6. What action, if any, was taken based on these reports?

No official action or follow-up occurred from the Selectboard, Planning Commission, or Wastewater Advisory Committee based on the reports.

7. Does the town know, or have a sense of, the number of current systems that are failing or may be in jeopardy of failing in the future?

There are/were maybe around 12 systems that are known to be failing or anticipated to be failing in the near future. These systems are on small lots and it was determined that enough of a concern existed to begin studying the problem.

8. What, if anything, do you think has changed since the two studies that create new needs/opportunities/challenges today? (e.g., more failing septic systems, new technologies, lower-cost financing, public support, etc.)

Work on identifying possible septic sites on the Old Laperle Farm site have continued based on work done on behalf of the East Montpelier Senior Living Initiative (EMSLI). A wastewater site was identified in 2010 that could accommodate approximately 24 beds worth of new development. While not necessarily a change, questions related to “who will benefit from increased density or who will end up paying for services or where will new services go” might need to be addressed in advance of further actions being taken.