

Water and Wastewater Capacity Assessment for Huntington, Vermont

STONE
ENVIRONMENTAL
100% EMPLOYEE-OWNED

Services / Expertise

Water Resources Management
Community Wastewater Feasibility
Community Water Supply Feasibility
Decentralized Wastewater Management
Public Outreach and Facilitation
ArcGIS Analysis

Markets

Municipal Clients
Regional Planning Commissions

Project Location

Huntington, Vermont

Duration

2011-2012

Project Owner

Huntington, Vermont

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Project Manager

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The treasured historic pattern of development in Huntington's Lower Village (and in many Vermont villages) – large houses on small lots close to each other and to water resources – in many cases cannot be continued safely or sustainably without community wastewater infrastructure.

STONE worked collaboratively with an engineering partner and the Town of Huntington's Water and Wastewater Working Group to conduct a water and wastewater capacity assessment for Huntington's three villages—including all of the land within the Lower Village, Huntington Center, and Hanksville village zoning districts. The objectives of the study were to:

- Identify current water and wastewater issues and needs of residential, public, and commercial structures in the three village districts;
- On a village district level, identify current water and wastewater capacity; and
- Assess options for expanding water and wastewater capacity for each village district, along with the scale/quantity of additional capacity (build out scenarios) and associated costs.

Understanding the Issues and Opportunities

Stone completed a comprehensive evaluation of current water and wastewater issues and needs—and current water and wastewater capacity—for residential, public, and commercial structures in the three village districts.

The primary water supply issues identified were low-yielding bedrock wells (especially in the Lower Village), along with scattered reports of water quality issues that included aesthetic (color, taste, smell) or bacteria (coliform) contamination concerns, affecting about 20% of the wells in all three villages.

The primary wastewater capacity issue identified was space-related limitations for the replacement of existing wastewater treatment (septic) systems—especially on the



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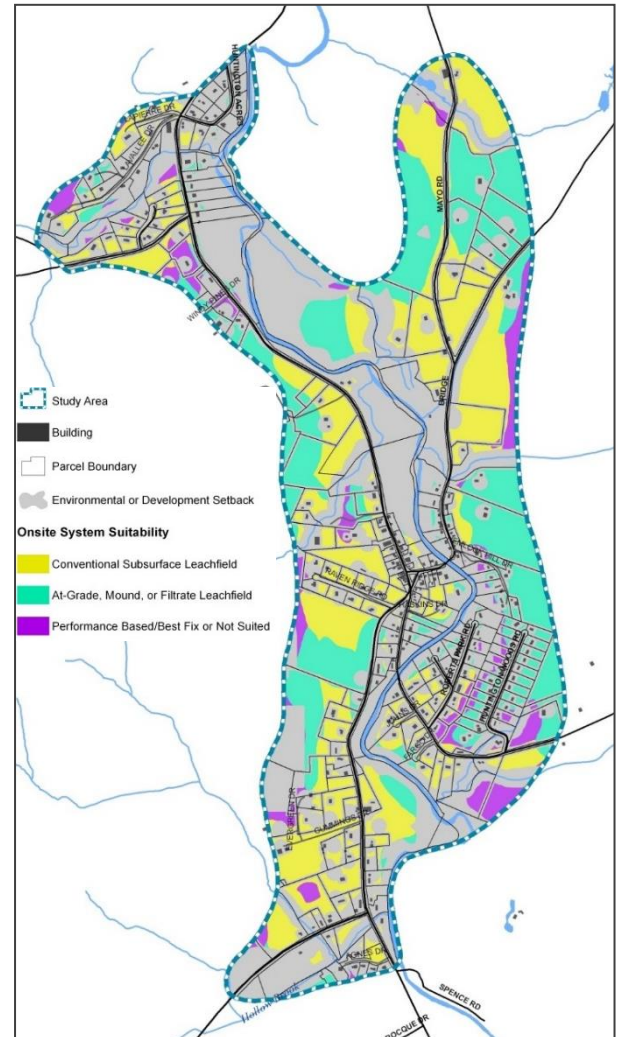
small parcels near the Main Road-Bridge Street intersection in the Lower Village and the Main Road-Camels Hump Road intersection in Huntington Center. Property owners in these space-limited areas would need access to additional wastewater capacity, and sometimes to additional water capacity, to change the uses or their properties or expand current uses. Owners who need to replace their current systems, but lack sufficient space to do so, will likely be limited to the current use of their property. Lack of wastewater capacity due primarily to small lot sizes and wastewater system/water supply buffer conflicts is the over-riding infrastructure issue from a future planning perspective, especially for small parcels in the Lower Village and Huntington Center. It affects a larger proportion of properties than any of the other issues identified (40-45% of properties in these two villages), and is a more challenging and costly issue to address.

The study confirmed that a range of community water supply and wastewater treatment options can be constructed in the village districts to address existing issues and needs, and to support future development. Both water and wastewater options can rely on conventional technologies, such as gravity-based community water distribution and in-ground (though large-scale) community leachfields, for wastewater treatment. These systems generally have minimal visual impacts (no large structures or water towers) and maintain open space. In all cases, the most passive, lowest-impact technologies feasible were used in developing the water and wastewater options.

A “Soils-Up” Approach to Land Use and Infrastructure

Given those opportunities and limitations, we assessed options for expanding water and wastewater capacity for each village district, along with the scale/quantity of additional capacity (build out scenarios) and associated costs. Using GIS tools, we developed three build-out scenarios to illustrate how differing water and wastewater management options may impact land use and development densities in the villages—using a soils-up, rather than zoning-down, approach. Each scenario resulted in different impacts on the number of new residences which may be built and where development in the village districts occurs.

If the Town continues with current zoning and reliance on individuals to take care of their water and wastewater systems, nearly all future development would occur on the larger lots located near the edges of the villages, rather than in or near the core areas of the Lower Village and Huntington Center. If the Town continues with current zoning but addresses existing areas of critical need, some environmental benefits would be provided, but nearly all future development would still occur on larger lots near the edges of the villages. If the Town changed or removed lot size requirements in portions of what are now the village districts, and provided community water and/or wastewater infrastructure, it could support a denser development pattern in village districts. The unique approach to alternatives analysis we employed enabled the consideration of the consequences of both land use planning and infrastructure policies in a comprehensive and simultaneous way—to the enrichment of both perspectives



This GIS-based map of Huntington's Lower Village highlights areas where environmental or development-related constraints exist currently (in gray), and areas where there is capacity to potentially site onsite wastewater systems in the future (color-coded by the type of system that could be permitted).

