

Infrastructure and Utilities

The following is a summary of the status of infrastructure in the Town of Enfield for drinking water, sanitary and storm sewer, natural gas, and electricity and solid waste. Not all infrastructure is owned by the Town, but all Town-owned infrastructure is managed by the Department of Public Works. The Town of Enfield Department of Public Works has several divisions: Building & Grounds Maintenance, Highway Maintenance, Engineering, Solid Waste, Fleet Services, and the Water Pollution Control.

Water

Domestic water is supplied by two privately-owned public utilities: the Connecticut Water Company and the Hazardville Water Company. These private water utilities are regulated by the United States Environmental Protection Agency (EPA) and the Connecticut Department of Public Health (DPH) with regard to water quality and operations, the Department of Environmental Protection (DEP) for environmental compliance, and by the Department of Public Utility Control (DPUC) with regard to rates and service.

The Connecticut Water Company supplies water to more than 86,000 customers, or nearly 300,000 people, for residential, commercial, industrial and municipal purposes in 54 towns in Connecticut.⁸⁸ The Hazardville Water Company serves 7,200 customers living along 117 miles of main requiring 12 wells capable of pumping 4.2 million gallons per day.⁸⁹

As required by the EPA, both companies publish an annual Water Quality Report that is available online. These reports described the results of periodic water quality tests and the sources of water, which for both utilities is a series of wells that draw groundwater. Based upon EPA primary water quality standards, water from both utilities has been deemed safe for consumption.

The private water utilities are not operated or regulated by the Town of Enfield. However, there are Advisory Committees for each utility that include a representative(s) from the Town of Enfield. The purpose of the committees is to provide the residents with advocates to air complaints about service, water quality and fees. According to the Enfield Town Engineer, in recent years, there have been few complaints from residents about the water quality, rates or supply provided by the utilities.

Private Wells

Not all areas of the town have utility water available to them – instead these properties have their own private wells that draw groundwater from the aquifer. Typically, these private wells are much shallower than the utility wells, thus are more susceptible to groundwater contamination. This makes it all the more important for the Town to preserve and monitor the aquifer protection areas and the groundwater recharge areas. During the writing of this report, a consultant was hired by the Town to study soil contamination in the Broadbrook Road area that has caused problems with local wells. A solution to this problem may be to extend water lines and take the private wells offline in this area.

⁸⁸ Connecticut Water Company website <http://www.ctwater.com>

⁸⁹ Hazardville Water Company website <http://www.hazardvillewater.com>

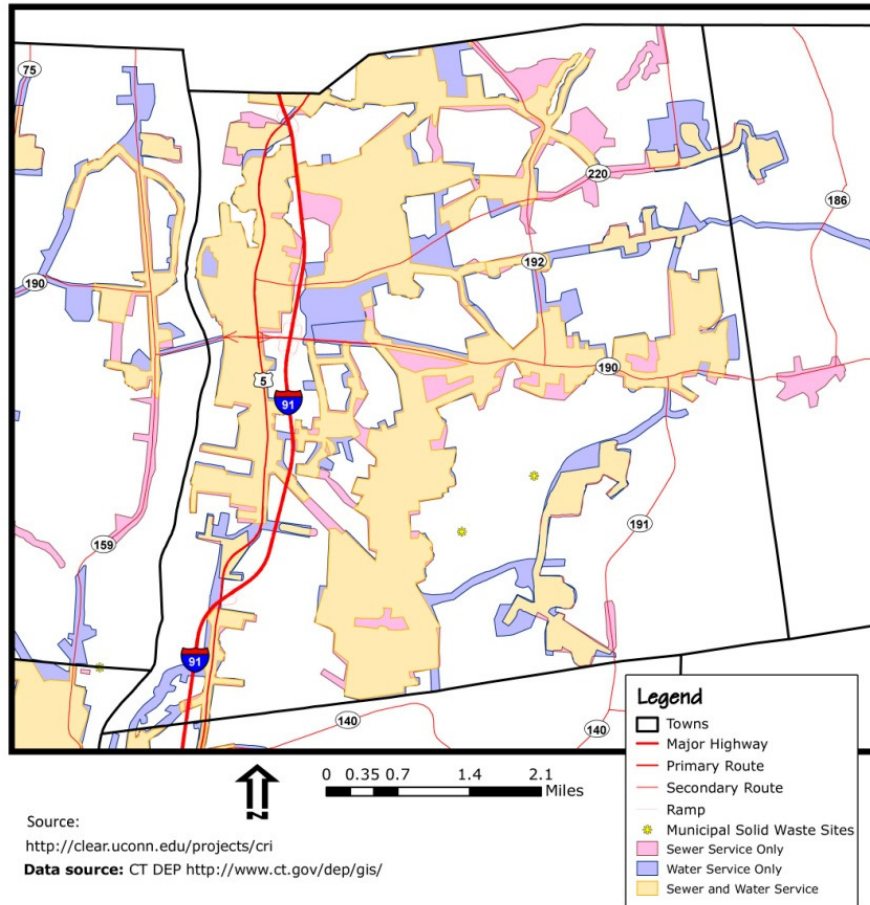


Figure 35 Areas Serviced by Water and Sewer

Sanitary Sewer System

The Enfield Department of Public Works' Water Pollution Control Division owns and operates a Wastewater Treatment Plant (WWTP) at 90 Parsons Road. Besides the plant, the Division is responsible for the operation, maintenance and repair of sixteen pumping stations, and two hundred and fifty miles of sewer pipe. The 47 year old WWTP (1972) is currently permitted to discharge ten million gallon per day (mgd). It is designed to remove 85% of the Biological Oxygen Demand and Suspended Solids, and was recently upgraded to provide nitrification/denitrification of the water. Initially, this process reduced the WWTP's design capacity of 10 mgd, but the capacity was restored with the addition of a proprietary process known as feed forward control. This process has exceeded designed specification and produces effluent surpassing the permit level, which resulted in revenue from the nitrification credit trading program. Professionals from as far away as China and Great Britain have come to view the process.

The normal flow at the WWTP is around five mgd with an occasional spike after a high intensity rainstorm of twelve to fifteen mgd. The WWTP is designed to handle a brief surge of twenty mgd and provide partial treatment before discharging the water. Based on the reported surges of wastewater after a rainstorm, one can conclude that there is stormwater entering the sanitary sewer system. Usually problems of this type come from older developments that were built before regulations were in place that restrict the tie-in of sump pumps and roof leaders to sanitary sewer systems. The Town is aware of this problem and has taken steps to address it. According to the Superintendent of the WWTP, Enfield applied for and received a

Federal grant totaling \$286,000 to address stormwater inflow issues in the Thompsonville area. While this won't entirely solve the problem, this will definitely help. Waste entering the WWTP and sludge generated by the water treatment process is processed to reduce water content, and then trucked to the Metropolitan District Commission in Hartford for disposal.

At the request of Town Manager Mathew Coppler, the WPC Division looked at various cogeneration options. After an initial study, the WPC Division concluded that it could process the sludge in a digester and create methane that could be converted to electricity. The study predicted that the Town could generate \$700,000 a year of internal savings from the electricity saved and an energy trading program. With this study and the help of the EPA Region I, the Town secured stimulus funding for the project: 20% from a grant and the remainder from a 2% loan. The cost of the project is \$8,600,000. The Town has contracted with SEA Consultants to create a 30% design, which will allow the project to go out to bid.

Septic Systems

One study estimates that in the Town of Enfield, "95% of residential and industrial areas are sewered."⁹⁰ The remaining properties in outlying areas use onsite sewage treatment systems such as septic tanks with drain fields (septic systems). These structures are regulated by the State of Connecticut Department of Public Health that has a new (January 2009) set of regulations titled Regulations and Technical Standards for Subsurface Sewage Disposal Systems available online at <http://www.cteha.org/pdf/TechStd'09Master.pdf>. Locally, these regulations are enforced by the North Central District Health Department. While these regulations update the requirements for design and installation of septic systems, which goes a long way toward insuring the proper functioning of the system, they do not require post-construction maintenance, monitoring or inspections. Instead, it is up to individual property owners to conduct inspections, pump septic tanks and take other steps to ensure that systems are operating properly and that no untreated wastewater is leaving the site. Poorly maintained septic systems can have a direct impact on the integrity of both groundwater and surface water sources. Systems can overflow and contribute pollutants to nearby streams and groundwater. Therefore, proper septic system function and maintenance or the elimination of onsite systems is of long term importance for the Town of Enfield. There should be no problem with WWTP capacity when taking septic systems offline since the high concentration septage (material pumped from septic tanks) is currently hauled to the WWTP for processing.

Implications for Housing Density

Another aspect of onsite sewage treatment systems that is regulated by the State is the distance to wells, open watercourses, groundwater drains, etc. A private well that draws less than ten gallons per minute (gpm) must not be closer than seventy five feet to any part of an onsite sewage treatment system. If the well draws more than 10 gpm, the setback increases to 100 feet. This regulation effectively sets a minimum lot size/maximum housing density in areas that do not have municipal sewer and water. Therefore, if increased density is desired, municipal water and sewer services must be provided or a developer must provide one.

Storm Water System

Enfield owns and maintains a system of stormwater pipes, catch basins and manholes. Ongoing maintenance and upgrades to old and undersized pipes are being done with Capital Improvements Program (CIP) funding. Some of this work is done with Town staff and larger projects are contracted out. There are

⁹⁰ Town of Enfield Connecticut - Plan of Conservation & Development - 1999

no combined sewer overflow (CSO) connections (where overflow from the sanitary sewer is spilled into the storm sewer) in the municipal system. The entire system flows by gravity – there are no pump stations.

Much of the stormwater pollution regulations in the Town of Enfield have been applied by the Federal Environmental Protection Agency (EPA). The Connecticut Department of Environmental Protection (CTDEP) serves as the umbrella agency for administering the state's National Pollution Discharge Elimination System (NPDES) stormwater management program. Connecticut's stormwater program is closely modeled after the federal NPDES program, which requires stormwater be treated to the maximum extent practicable. Best management practices (BMP) must also be designed to remove 80% of the total suspended solids load. The CTDEP publishes the Connecticut Stormwater Quality and the Connecticut Guidelines for Soil Erosion and Sediment Control; both are available online at <http://www.ct.gov/dep/>.

At the state level, all construction sites disturbing more than one acre, many industrial sites, and all designated Municipal Separate Storm Sewer Systems (MS4s) are required to obtain and meet the requirements of NPDES permit coverage. Enfield is defined as a MS4 community since it has an Urbanized Areas as determined by the U.S. Census Bureau and has an MS4 permit in place with CTDEP. Specifically, MS4 regulations apply to how towns manage their system and what measures they take to reduce or eliminate the discharge of pollutants to that system. In Enfield, a developer or contractor must also get a permit directly from CTDEP for the discharge of stormwater – the Town does not issue this permit. Also, the Town does not have any stormwater regulations that supplement the CTDEP regulations.

Natural Gas and Electric

Gas and electric services in Enfield are run by private utilities – the Town does not own or operate infrastructure in this category. According to the website city-data.com, 56% of the homes in Enfield are heated with fuel oil, kerosene, propane, etc., 35% use utility gas, 5% use electricity and 3% use “other”.

The infrastructure for electricity is owned and maintained by Connecticut Light & Power (CL&P). Customers can choose from a wide range of electric providers since the market is de-regulated; however, CL&P will deliver that electricity to the customer. Yankee Gas provides the infrastructure for, and delivery of, natural gas service in Enfield. If the owner of a home or business in Enfield does not have gas service and would like it, they would approach the utility directly. On some occasions the Town may act on behalf of a group in approaching a utility but ultimately this is not the responsibility of the Town.

The Enfield Clean Energy Committee was originally established by the Town in October of 2007. The purpose of the committee is to promote clean power options; encourage the development of renewable energy in Enfield; and make recommendations to the Town Council. The committee has been meeting regularly since that time and has been discussing methods to promote clean energy and energy conservation.

Solid Waste

The Town of Enfield Solid Waste Division of the Department of Public Works provides curbside pickup of trash and recyclables once each week. Refuse/trash for residential customers must be placed in the new tipper barrels provided by the Town for that purpose. Bulky items must be picked up by appointment for a fee. Refuse is initially trucked to the transfer station, located on Town Farm Rd. From there, the Refuse is transported to the Connecticut Resources Recovery Authority (CRRA) facility in Ellington. The CRRA is a quasi-public agency established by the state in 1973 to modernize Connecticut's solid waste disposal. CRRA replaced a patchwork of "town dumps" with a program that emphasizes trash-to-energy; recycling; and safe,

modern, engineered lined landfills. In Enfield the tons of municipal solid waste collected from curbside and transported on a weekly basis to the CRRA Facility in 2006 was 17,866 tons.

State of Connecticut law prohibits the disposal of grass clippings with household refuse. Therefore, yard waste consisting of grass clippings and brush, is collected separately and may be placed at curbside in Brown Tipper Carts or Brown Leaf bags. Yard waste can also be dropped off at the Town's transfer station. Additional services provided to residents include a monthly scheduled automotive battery and used motor oil collection/drop off. The Town also provides an annual household hazardous waste drop-off opportunity in the spring.

Recycling

The Town provides curbside collection of commingled recyclables placed in blue bins provided by the Town, on a weekly basis. Recyclables include; mixed paper, glass, metal, plastic, and aseptic containers such as juice boxes and milk cartons. After staging at the Town's transfer station, recyclables are transported to the CRRA Recycling Facility in Hartford.

Findings

- While there are numerous problems with onsite sewage treatment systems (septic systems); they do allow development of sites that are remote and not economically feasible to extend sewer service to. Wherever feasible though, the Town should extend the sewer service to take existing septic systems offline eliminating concerns about water contamination due to septic systems with poor maintenance or unsuitable soil conditions and to allow higher housing densities where desired.
- With regard to stormwater inflow into the wastewater system, the Town should continue to take measures to correct the problem. This will help delay the date when expensive upgrades to the WWTP are needed due to either extra inflow volumes due to additional population or more stringent regulations.
- Hopefully, in the future the capital necessary to build the sewage sludge-fueled energy generation facility will be found. If implemented, the Town will likely realized some savings on energy costs and will become a leader in "green energy".

