

Engineering

Six Park Row, Mansfield, MA 02048
Phone 508-261-7377, Fax 508-261-7425

Personnel:

John D. Sullivan, Jr., P.E., Town Engineer
Richard Alves, P.E., Senior Engineer
Dianne Royle, Administrative Assistant

**[CLICK HERE FOR RULES AND REGULATIONS FOR THE
EXTENSION OF PUBLIC SEWERS \(Adobe pdf File\)](#)**

Department Overview:

The Engineering Department's responsibilities encompass a wide range of projects involving the design, permitting, construction review and inspection of sewers, drainage systems, culverts, roads, bridges and dams. In addition, they include the design and field engineering for various Municipal Public Works projects, the monitoring and repairing of the Town's sewer collection system, and the assessing and improving the Town's drainage and roadway system. The Department also coordinates with consultants, bids and awards contracts in its efforts to successfully complete many projects efficiently and cost effectively.



The Department has its own Total Station survey equipment, utilizing field GPS equipment to obtain existing infrastructure data. The Department utilizes this field data to update the sewer and drainage data in GIS, and along with AutoCad and various engineering design software, develops drawings for Town projects.

The Engineering Department is available to answer questions on drainage, sewer and other land development issues, in addition to performing technical reviews for site plans and subdivision plans in support of other Town Departments.

The following information can be picked up at the Engineering Department, or is included in this website.

- *Sewer Application/Permit for Installation of a Sewer Connection, Sewer Extension or Sewer Repair*
- *List of presently approved Sewer Drainlayers*
- *Drainlayer's License and Sewer Permit Regulation*
- *Application for a Sewer Drainlayer's License*
- *Sewer Use Regulations*
- *Rules and Regulations for the Extension of Public Sewers (for homeowners)*

Due to the growth of Mansfield over the years, the demand on the utility infrastructure has increased tremendously, resulting in the need for costly improvements and upgrades. Of particular importance to the Engineering Department has been overseeing the repair of the Town's aging sewer system, where extraneous water enters the system and impacts the limited capacity of our Wastewater Treatment Plant, located in the town of Norton. Extensive repairs of many leaking sewer manholes and pipes in 2001, was continued in 2002 and into 2003, with the resealing of a combined total of 205 sewer manholes, and the relining of over two miles of leaking sewer pipes. In 2003, we accelerated our schedule for conducting inspections of all house and business sewer connections (i.e., over 3,000 sewer users) to identify and eliminate the flow of unnecessary stormwater into the sewer system. These inspections were controlled by the Engineering Department through the use of the new GIS computer system, and all inspections



were performed by Engineering and DPW personnel. The cooperation of Mansfield's residents and businesses was greatly appreciated. We found 2% of the inspected properties had illegal inflow sources connected to the sanitary sewer system. Among those connected, we had identified 60 sump pumps, which during high groundwater and heavy rainfall could have contributed over 300,000 gallons per day to the sanitary sewer system. All have now been redirected. This major Inflow and Infiltration

Program (I&I) continued with a final major repair effort of relining sewer pipes and repairing sewer manholes in 2005. This major I&I Program cost over 2 million dollars, and continued annual maintenance and repair of the sewer system under the DPW Sewer Enterprise Account is now planned. Another repair of the worst sewer lines and manholes is expected for 2009.

For more information on Inflow and Infiltration, please go to the I/I Page (Adobe pdf file).

Increased growth has also taxed the Town's drainage system. A new federally mandated EPA program required Mansfield to develop and implement stormwater management plan to reduce pollutant discharge to our rivers and streams to protect water quality. A five-year plan was submitted to the State on July 23, 2003, describing how the Town will implement drainage improvements. These improvements include cleaning lines and basins, public education and outreach programs, detection and elimination of illicit discharges and constructing water quality structures prior to stormwater discharge to rivers and streams. This EPA/DEP permit requirement will be a long-term requirement, and will require the Town to track down pollutant sources and to do something about them. In order to comply with these federal requirements, we were able to obtain a State Revolving Fund Loan (SRF) for \$1,005,000, at zero percent interest, to help finance the inventorying, mapping and inspecting of our Town's drainage system. The Town's Consultants, Camp Dresser & McKee, inventoried and mapped the drainage system through the implementation of a Geographic Information System (GIS). Their work was completed in 2003, and the system is totally operated and maintained by Town personnel. This GIS system benefits nearly all Town Departments and the public for quick access and retrieval of significant amounts of information. The GIS system contains an aerial photo of the Town, along with utilities, land use maps and assessor's data in digital format. The aerial photo of 2001 was re-flown in 2006 to keep the system updated and useful. The EPA and DEP are developing new criteria for the next permitting cycle, which is expected to be issued in 2009, and likely include more stringent testing of drainage outfalls.

Recent Projects

Mansfield Crossing

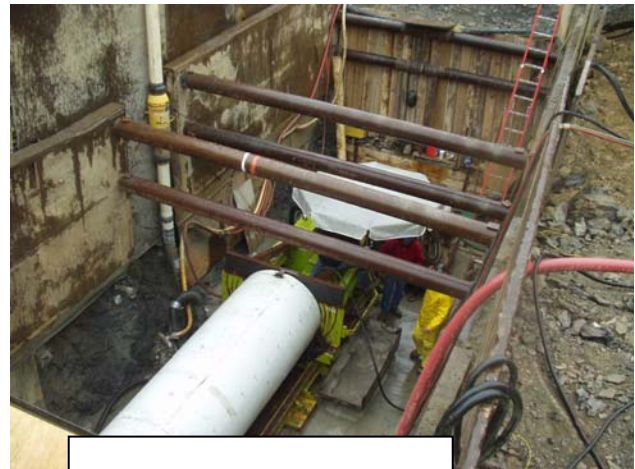
We worked extensively during the construction of Mansfield Crossing with inspections of significant amounts of on-site drainage and sewer to support its opening. Work also included inspections for the completion of Mansfield Crossing's construction of the first phase of the Town's School Street Sewer Interceptor per the Town's Sewer Master Plan.



Mansfield Crossing

School Street Sewer Interceptor

As part of the School Street Sewer Interceptor Project, we eliminated a sewer pump station in the Industrial Park that had been envisioned over 30 years ago. The sewer interceptor in front of Mansfield Crossing was extended up old School Street, under Route 495, and tunneled under the AMTRAK railroad to Forbes Boulevard, which eliminated the Plymouth Street sewer pump station near the Chrysler Building. That contractor will be back in the spring to repave Forbes Boulevard curb-to-curb, near the Chrysler Building. The Plymouth Street sewer pump station near the Chrysler building on Forbes has been decommissioned, and the sewage is now flowing by gravity to School Street and on to the Treatment Plant. Getting a tunnel under AMTRAK for the 4-ft. diameter sleeve and 2-ft. diameter sewer line was a challenge, and it was done without impacting the tracks or AMTRAK's schedule. We are still dealing with AMTRAK on final easement agreements. The last phase of the School Street Interceptor Project was awarded to Revoli Construction Co., Inc. of Franklin, MA, who started in November 2008, and construction is expected to be completed by spring 2009.



Jacking under AMTRAK

AMTRAK

Stormwater Phase II Permit

We have provided annual updates to the DEP and EPA in April on the Town's existing Stormwater Phase II permit to improve the water quality to our rivers, streams and other water bodies. This included our required action to create or strengthen existing by-laws or regulations to control construction site runoff. We worked with a committee from various Departments and created a General By-law to cover Illicit Discharge and Stormwater Management during and after construction. Meetings were also held with the Planning Board, Conservation Commission, Selectmen and the Canoe River Advisory Committee to obtain comments. These comments were addressed and the Stormwater By-law was accepted at the May 23, 2006 session of the Annual Town Meeting. This by-law consists of two parts. Part A covers Illicit Discharges to the Municipal Storm Drain System with DPW being responsible. Part B covers Stormwater Management and Land Disturbance during and after construction with the Conservation

Commission being responsible. Under the Stormwater Management By-law, the Conservation Commission will now see all projects resulting in disturbance of an acre or more of land. (Projects that would fall under the Wetlands Protection Act are exempt, so as not to create dual permits.)

The Stormwater Management By-law calls for initial inspection of the erosion control measures by the Commission or its Agent; but thereafter requires inspection and monthly reports during construction by the permittee. A final report and certified as-built plan are also required. The post-construction control relies on the recorded Operations and Maintenance Plan, and the submittal of certified annual reports that would be required by the Operations and Maintenance Plan.

For more information on Mansfield's Stormwater Permit Requirements, please go to the new "Stormwater Phase II Permit Requirements" page.

Other Activities Accomplished by the Engineering Department in 2008 included the following:

- Administered the Town's Sewer Regulations, licensed 20 sewer drainlayers, and issued 33 sewer permits for installations. Subsequently performed numerous inspections of sewer installations for homes, buildings and subdivision roadways.
- Provided the 5th annual compliance update to the DEP and EPA on the Town's 5-Year Stormwater Phase II permit to improve the water quality to our rivers, streams and other water bodies. Started developing plans for compliance with the second 5-year permit requirements.
- Provided technical review to Town Boards and Commissions for proposed subdivisions, including the 5-lot Stanley Village Cluster off Bird Road, 12-lot Autumn Park Subdivision off Essex St., 13-lot Wayside Estates off Old Farm Road, and the 5-lot Forest Heights Cluster off Williams Street. Also provide technical review of proposed site plans, including a 57-unit expansion of Willow Crossing off Cobb Street, Mansfield Marketplace's two retail buildings, Pinnacle Partner's three retail buildings on School Street, Xtramart Gas Station and Convenience Store on South Main Street, and a new 350,000 SF warehouse/distribution building for Medline on West Street.
- Performed construction review, monitored field testing, and inspected site plan and subdivision projects, such as Mansfield Crossing at Rt. 140/School Street, Autumn Park on Essex Street, Gouridine Estates/Patriots Way off Mill Street, Fairfield Green on West Street, as well as the proposed Mansfield Marketplace, across from Mansfield Crossing.
- Witnessed on-site soil testing for groundwater and permeability to verify stormwater assumption for all subdivisions and site plans.
- Worked with Mass Highway to complete the bid process to support the start of construction in October 2008 for the Route 106 Railroad Underpass.
- Worked with Mass Highway to complete the construction of the Route 106 Canoe River Bridge near the Highway Garage, and the road work between Hope Street and Flint Farm. Mass Highway completed this project in September 2008.
- Supported the DPW in their construction and completion of water, sewer, drainage and sidewalk improvements on the 1½ mile Branch Street.
- Performed field GPS to update our sewer plan and supplement our GIS stormwater drainage data for compliance with our Stormwater Permit.

- Implemented new State orders and requirements for the inspections of the Town's dams. Completed the inspection of the Canoe River Campground Dam, Kingman Pond Dam, Sweet's Pond Dam and the Fulton Pond Dam.
- With our consultant, Weston & Sampson, we completed the design and permitting for the reconstruction of the Kingman Pond Dam; and were able to award the construction contract after approval of the debt exclusion in July 2008. This allowed reconstruction to start in compliance with an Order from the State Office of Dam Safety.
- Worked to address an Order from the State Office of Dam Safety to repair the poor condition of the Canoe River Campground Dam on Mill Street by November 20, 2009. The Town issued a Request for Proposals in February 2008, and subsequently awarded the design for repair of this dam to PARE Corporation. PARE developed a site-specific Phase II Evaluation and Repair, which has been accepted by the Office of Dam Safety for compliance with the Dam Safety Order. Completion of design is expected in early 2009; and then funding is necessary for the construction to comply with the State Order.
- Worked with Weston & Sampson Engineers to develop bid documents for the next construction repair of the municipal sewer system to address the inflow and infiltration problem areas remaining from our last repair in 2004, and the additional ones identified since then. The intent is to do the repairs in the summer of 2009 during periods of low groundwater. A Plymouth Street cross-country sewer access path was recently completed by DPW and the Engineering Department, with final signoff obtained from the Army Corps of Engineers. This provides about a half-mile of access to our sewer line and 11 sewer manholes; some of which were identified to be repaired in 2004, but couldn't be reached due to wetlands. These will now be included in this next construction repair.
- Designed drainage improvements for the proposed reconstruction of East Street, Park Street, Park Avenue and Linden Street.

Anticipated Major Projects for 2009:

- Administer the construction contract and complete the Kingman Pond Dam Reconstruction.
- Work with Mass Highway toward the satisfactory completion of the Route 106 Railroad Underpass Project.
- Complete the construction of the School Street Sewer Interceptor, and eliminate the last municipal pump station in the Industrial Park, to complete the 30-year old Sewer Master Plan for the Park.
- Continue the on-going annual sewer inspection and maintenance program under the DPW to address unwanted and costly inflow and infiltration into the municipal sewer system.
- Develop plans and prepare applications for the EPA and DEP permit for the Town's next required five-year permit for stormwater management.
- Continue with the Geographic Information System (GIS) for mapping and linking sewer and drainage system data for Town Departments and resident's use.
- Work with Mass Highway Dept. for a permanent repair design for the temporarily repaired West Street Bridge over the Wading River.
- Work with Mass Highway Dept. to re-start their design for the replacement of the Otis Street Bridge and Dam.
- Work with Mass Highway Dept. for funding and repaving Route 106 from just beyond East Street to the Easton town line.

- Continue with an inspection program of the Town's dams to comply with State regulations, and identify needed repairs.

Sewer FAQ's:

How do I Tie into Town Sewer?

1. You will need to know if your property has sewer available in the street. If you are not sure, call or email the Engineering Department.
2. If sewer is available to your property, you will need to contact a Town of Mansfield Registered Drainlayer (current list of Registered Drainlayers available at the Engineering Department) or hire your own contractor, who must become a Town of Mansfield Registered Drainlayer. Registered Drainlayers are licensed by the Town of Mansfield to perform work on sewers, and are bonded and insured to protect the Town and YOU.
3. Your Drainlayer will apply for a Sewer Connection Permit. The permit fee is \$100 plus \$1 for each foot of sewer pipe over 100 feet, with a minimum of \$100 fee. If you are a new sewer user, an additional Sewer Connection Fee must be paid, and this fee is based on the size of your water meter. A form from the Water Department showing the size of your water meter must be submitted with your sewer application.
4. A sketch of the proposed sewer with all applicable fittings, bends and cleanouts is required with the sewer permit application. **NOTE: A VALID SEWER PERMIT IS REQUIRED BEFORE ANY WORK IS STARTED TO INSTALL, DISCONNECT, OR REPAIR A SEWER MAIN OR SERVICE.**
5. Your Drainlayer must call the Engineering Department for an inspection at least 24 hours in advance.
6. An as-built plan of the sewer connection must be submitted by the Drainlayer at the time of the inspection.