

FORCE MAIN REQUIREMENTS CHECKLIST

Owner's Name: _____

Engineer's Name: _____

Site Address: _____

Date: _____

The following checklist is not all-inclusive, but is generally representative of the requirements of the Marlborough Site Plan Review and Approval Ordinance (SPR&A) and the Planning Board's Rules and Regulations (S/D R&R). In all cases, you should use the checklist in conjunction with the SPR&A and the S/D R&R as appropriate.

- No force main shall pump directly into the City system. All force mains shall discharge into a precast sewer manhole to be located on the owner's side of the property line. The effluent shall then flow by gravity into a City sewer manhole. The dividing line between private and public shall be marked on the plan.
- Any connection to a City sewer manhole shall be cored and fitted with a rubber boot
- A Street Opening Permit shall be obtained prior to any work within the City right-of-way
- Any connection to a City manhole or work within the City right-of-way shall conform to City requirements and shall be inspected prior to backfill
- A cleanout consisting of a wye with a threaded cap shall be installed on the main within the manhole (where the main changes from force to gravity) to allow for the main to be rodded
- Minimum residential service size shall be 2" schedule 40 PVC unless approved by City Engineer
- Minimum commercial service size shall be 4" ductile iron unless approved by City Engineer
- Minimum cover over force main shall be 5 feet
- All force mains shall be surrounded by 12" envelope of ¾" crushed stone
- Check dams shall be placed every 100 feet along force main
- Metallic warning tape shall be installed over the main within the trench
- Force mains shall be separated from other utilities by at least 5' horizontally
- Force mains shall be separated from water lines by at least 10' horizontally
- Pump chamber shall be sized to store 24 hours of effluent (minimum 1000 gallon capacity) and be made of precast concrete (or approved equal) capable of withstanding H2O loading. Residential pump chambers shall be sized to store 72 hours of effluent.
- The bottom of the pump chamber shall be sloped toward pump
- Pumps shall be sized to accommodate flows-Provide pump curves and calculations
- Duplex pumps are recommended
- An in-line union shall be placed in the discharge pipe near the pump to allow for the pump to be removed
- An in-line backflow preventer (with an external counterweight on Commercial sites) shall be installed on the discharge pipe to prevent effluent from backing up into the chamber
- An iron pipe shutoff valve (w/o drain) shall be installed on the discharge pipe (after the backflow preventer) to allow for the repair of pump
- The shutoff valve and backflow preventer shall be installed within a separate valve chamber where possible
- If separate valve chamber can not be provided, the backflow preventer shall be installed within the pump chamber and the shutoff outside the chamber with a riser box and stem
- All pressurized pipes within the chamber shall be restrained from movement with stainless steel straps affixed to the chamber
- Alarm systems indicating pump failure shall be installed on all pumps
- Residential systems shall require audible warning on alarm systems affixed to the house
- Commercial systems shall require audible and visual warnings on alarm systems affixed to the building at a location monitored 24 hours a day
- Run time meters shall be installed on all commercial systems
- All pumps shall have an anti-siphon prime
- Provide at least the following details:
 - Trench detail for force main
 - Trench detail for gravity mains
 - Sewer manhole detail
 - Pump chamber detail
 - Profile of entire system
- Force main shall be tested by filling with water and pressurizing main to 100psi for one hour. Pressure test shall be performed by the contractor in the presence of City Inspector

Force Main Sewer Requirements Memo (Cont'd.)