

REQUEST TO CONSTRUCT, MODIFY, AND COMPLETED WORKS FOR A PUBLIC WATER SUPPLY DISINFECTION SYSTEM

Description: Prior to construction of a new or modification of an existing disinfection system for a public water well system, approval must be secured from the Westchester County Department of Health.

Applicable Codes: Part 5, Subpart 5-1 Section 5-1.22 of the New York State Sanitary Code and Chapter 873, Article VII, Section 873.707.1 of the Laws of Westchester County.

Fees: Chapter 873, Article XXI of the Laws of Westchester County.

Submittal: The submittal shall be filed by a licensed and registered Professional Engineer in the State of New York and forwarded to the Westchester County Department of Health, 145 Huguenot Street, 7th Floor, New Rochelle, NY 10801, Attention: Program Administrator. When requesting Approval of Plans for a project pursuant to the above provisions, the following list serves as the minimum filing requirements:

1. A letter of authorization bearing the original signature of the owner or owner's representative authorizing the Professional Engineer to file permit applications and plans.
2. One (1) original form DOH-348 with all items completed. This form must be dated and bear the original signature of the applicant.
3. One (1) original Engineer's Report bearing the original signature and seal of a licensed and registered Professional Engineer in the State of New York. The Engineer's Report must provide a narrative of the scope, details, and specifications of the project and include criteria for Ultraviolet or Sodium Hypochlorite disinfection, whichever is applicable.
4. A detailed evaluation of the peak flow demand and average use must be submitted. Also the maximum pressure loss throughout the system equipment and distribution shall be accounted for adequately in maintaining the required pressure and flow.
5. A minimum of three (3) sets of construction plans (one (1) set of plans will be retained by the Department) that are prepared by a Professional Engineer licensed and registered in the State of New York. These plans must bear the professional's original signature and seal, be prepared pursuant to Title VIII, Article 145, Section 7209 of the New York State Education Law and signed by the Municipal Engineer when applicable.

(A) Plan Contents:

I. Minimum requirements to be included in the plans:

1. Location Map of the facility including appropriate streets, etc.
2. Site plan of the project denoting all proposed well(s) and existing wells including irrigation wells.
3. A schematic flow diagram and profile view illustrating well, piping network from well to distribution system including equipment for disinfection, carbon adsorber, air stripper, water softening, filters, sampling taps and appurtenances. The diagram must illustrate the areas served by the proposed system including residences served on the premises and a floor plan of such.
4. Provide a note on plans indicating that disinfection will be performed in accordance with AWWA Standard C651-05 except for Section 4.4.2 and an acceptable bacteriological result must be submitted and accepted by the Westchester County Department of Health prior to the activation of the system.
5. The following applicable design criteria must be included on the plans.

Design Criteria for Ultraviolet Disinfection:

1. A single UV unit capable of treating the maximum output of the pump(s) at peak demand.
2. Manufacturer's specification must be submitted, including the unit's rated capacity in gpm, and a minimum dose rate of 40,000 micro watts-sec/cm² at the design flow rate and at the water shut off setting.
3. A copy of the bioassay results for the specified unit having a capacity of greater than 30 gpm must be submitted. The bioassay procedure shall have been performed by an independent laboratory for the manufacturer for the full operating range which applied to the specific UV unit. Ultraviolet disinfection units with a capacity of 30 gpm or less must be ANSI/NSF validated and listed with the National Sanitation Foundation under Standard ANSI/NSF Standard O55 Disinfection Performance Class A.
4. The unit must be equipped with an UV light intensity meter, calibrated, with discrete dial readout of intensity levels.
5. The intensity meter must be connected to a solenoid-operated automatic water supply shut-off valve that is activated in the event of low intensity.
6. Provide a flow meter of totalizer type to measure flow downstream of the UV unit.

7. The intensity meter must be connected to an audible and visual alarm system.
8. A spare UV lamp must be on the premises at all times and denote such on the plans.
9. A flow time delay mechanism shall be provided to permit a two minute UV warm-up period before water flows through the unit.
10. An automatic flow control valve, accurate to the design flow rate within the expected pressure range, shall be installed to restrict flow to the disinfection unit.
11. That the UV unit will be preceded by 5 micron and 1 micron particle filters monitored by pressure gauges, with consideration given to a “roughing filter” (e.g. empty filter canister) for wells known to pump sand.
12. The unit shall be equipped with an integral plunger-type swabber for clearing the quartz sleeve or an automatic cleaning device.

Design Criteria for Hypochlorinator:

1. Provide chlorinator’s make and model number and that such is NSF approved. For approval of chlorinators not NSF listed, support must be submitted illustrating comparability for department review.
2. Provide manufacturer’s specifications.
3. Provide calculation supporting that the capacity of the chlorinator will maintain a chlorine residual of 0.2 mg/l at the end of the distribution system during peak demands and that the design provides a minimum of 30 minutes contact time.
4. Provide stand-by chlorinator.
5. Specify chlorine feed rate and chlorinator pump setting.
6. Specify range of settings on chlorinator pump dial and supply pump curve for the specific model.
7. Provide a chemical label on the sodium hypochlorinate crock.
8. Provide a flow meter or totalizer that will indicate flow for the system.

ISSUANCE OF COMPLETED WORKS APPROVAL FOR A PUBLIC WATER DISINFECTION SYSTEM

Description: Prior to the activation of a newly constructed or of a modified existing disinfection system, approval must be secured from the Westchester County Department of Health.

Applicable Codes: Part 5, Subpart 5-1 Section 5-1.22 of the New York State Sanitary Code and Chapter 873, Article VII, Section 873.707.5 of the Laws of Westchester County.

Fees: Chapter 873, Article XXI of the Laws of Westchester County.

Submittal: The submittal shall be filed by a licensed and registered Professional Engineer in the State of New York and forwarded to the Westchester County Department of Health, 145 Huguenot Street, 7th Floor, New Rochelle, NY 10801, Attention: Project Reviewer. When requesting Approval of Completed Works pursuant to the above provisions, the following list serves as the minimum requirements:

1. Following disinfection in accordance with AWWA Standard C651-05 for the installation of a disinfection system, submit test results for bacteriological analyses (E-Coli, HPC) to insure operation of the disinfection system.
2. A minimum of two (2) sets of “As-Built” plans (one (1) set being retained by the Department) bearing the original signature and seal of the construction supervising Professional Engineer licensed and registered in the State of New York. This plan must reflect any changes from the original approved plan by “Bubbling” these changes. Note all deviation from the original plan approval must have received prior approval from the Department.
3. That the construction supervising Professional Engineer licensed and registered in the State of New York provides a Certification Letter bearing the professional’s original seal and signature which will be forwarded with the “As Built” plans. This letter shall provide a statement that the undersigned has supervised or witnessed construction, and that there are no construction changes from the original Departmental approval. In the event that construction changes do exist and have received prior Departmental approval, this letter must reflect such changes.