

NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

December 24, 2013

David S. Warne
Assistant Commissioner
NYC Department of Environmental Protection
Bureau of Water Supply
465 Columbus Avenue
Valhalla, NY 10595

Dear Mr. Warne,

We, in consultation with the US Environmental Protection Agency (EPA) and the NYS Department of Environmental Conservation (DEC), have reviewed "Study to Determine the Potential Need for a Community Wastewater Management System for the Hamlet of Shokan", which was submitted by the NYC Department of Environmental Protection (NYCDEP) on October 31, 2013 in accordance with Section 3.3 of the draft Mid-Term Revisions to the 2007 FAD.

The study proposes to conduct sampling in a stream that drains a large part of the hamlet of Shokan in order to detect if any water quality impairments are being caused by development in the catchment area. Samples will be collected under both baseline and storm flow conditions. Samples will be analyzed for physical analytes, fecal coliform, *Bacteroides* (analysis contingent upon fecal coliform levels), and stream stage height will be recorded. If water quality monitoring indicates that septic systems may be impacting water quality, additional information, including number of septic systems, soils, and lot sizes, will be assessed to determine if wastewater management needs in the catchment area are being met or may need to be addressed further.

NYSDOH, USEPA, and NYSDEC have the following comments/questions regarding NYCDEP's proposal:

1. We request additional information on the sampling design:
 - How many samples will the autosampler collect during storm events?
 - Will samples be composited?
2. In addition to analyzing for *Bacteroides*, we recommend that NYCDEP consider analyzing stream samples for artificial sweeteners, caffeine, and/or optical brighteners (from laundry detergent) as specific indicators of wastewater of human origin. These compounds have the advantage of being relatively conservative tracers and are detectable at low levels.
3. It appears that one or two other streams drain the Shokan area. Provide additional justification for monitoring only at the SHOKAN site.
4. NYCDEP indicated that a reconnaissance survey had been done of the tributary to Ashokan Brook. NYCDEP should consider performing such surveys on all the streams

draining the Shokan area. Conductivity measurements might be made as part of these surveys to provide a relatively easy way to detect possible wastewater inputs to the streams.

5. NYCDEP should consider whether dye testing of selected septic systems might provide useful information.
6. While stream sampling may provide a direct indication that septic systems in the Shokan area are impacting water quality, the possible intermittent nature of septic system impacts may cause a signal to be missed by periodic sampling. Site specific information, such as density and age of septic systems, soil types, etc. can be used to assess the likelihood of on-site septic system failure and the need for alternative means to manage wastewater. While NYCDEP proposes to collect this type of information if the water quality monitoring indicates a septic system impact, NYSDEC notes that this type of site specific information is typically gathered upfront to help assess the need for a community waste management system. In order to complement water quality monitoring, and to be consistent with conventional assessment procedures, NYSDOH, USEPA, and NYSDEC request that the following information also be obtained to assess the need for a community wastewater management system for the Hamlet of Shokan:
 - population;
 - number of residential septic systems;
 - number of commercial septic systems and types of businesses;
 - lot sizes;
 - lot topography;
 - soil types;
 - age of community/on-site septic systems;
 - proximity to water and/or drainage;
 - history/knowledge of failures/issues (e.g., from CWC, County and/or Town officials);
 - knowledge of frequency of septic tank clean-out for residential and commercial systems.
7. NYCDEP should obtain information that will allow them to address the following questions in their assessment:
 - Can the existing lots support on-site systems that are compliant with NYC Watershed Rules and Regulations?
 - What would be the location of a community system?
 - Would a septic management district be an option?
 - Is there a discharge location available?

We feel that this information, in addition to water quality monitoring, will greatly enhance the effectiveness of NYCDEP's study to assess whether or not the Ashokan Reservoir water supply is being adequately protected from a potential source of contaminants. Please provide responses to these comments by January 31, 2014.

Please contact us if you have any questions or would like to discuss this matter further.

Sincerely,



Pamela L. Young, Ph.D.
Acting Chief
NYC Watershed Section
Bureau of Water Supply Protection

cc: **R. Sokol**
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