

Technical Memorandum

To: Mr. Eugene Peterson
Club Manager
Hollow Brook Golf Club
Cortlandt Manor, New York 10567

From: William A. Canavan, PG, LSRP
HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers, New York 10589

Date: November 22, 2022

RE: Surface and Groundwater Testing
Hollow Brook Country Club
Cortlandt Manor, New York

As requested, HydroEnvironmental Solutions, Inc. (HES) has reviewed the surface water and groundwater testing Application submitted to the Town of Cortlandt Manor, New York by WSP USA and related company Hydrogeologic Architecture, Land Surveying, Landscape Architecture Services, P.C. (WSP) for the Hollow Brook Country Club located in Cortlandt Manor, Westchester County, New York. HES reviewed the following documents as part of our review on behalf of the Country Club:

- The May 19, 2020 – 2019 Annual Monitoring Report submitted by WSP
- The April 7, 2021 – 2020 Annual Monitoring Report submitted by WSP
- The April 13, 2022 – 2021 Annual Monitoring Report submitted by WSP
- Attachment A – Water Quality Monitoring Program dated April 15, 2003

Based on our review, HES offers the following:

- HES recommends that two existing monitor wells should be sampled semi-annually on either side of the on-site stream. This should include on-site monitor wells GW-4 and GW-1R. These wells should be sampled for field parameters, inorganics, and organics, as outlined on **Table 1** and **Table 2** in the WSP Annual Monitoring Reports.
- The most downgradient surface water sampling location, designated DS-1, should be sampled for all parameters listed on **Table 1** and **Table 2**. This surface water location should be sampled on a semi-annual basis in late spring (June) and early fall (September).



- HES recommends that a sampling event be completed after one annual storm event in the fall during the months of September and October for the sampling locations outlined above. The minimum rainfall event that should dictate the post precipitation event should be 1/4-inch of rain, documented from the nearest weather station to the golf course, or from an on-site rain gage.
- The above outlined sampling plan is based on the review of the three annual reports provided and the fact that there were few exceedances for the surface and groundwater parameter list for the past three years. The compounds that were detected above Ambient Water Quality Standards, or Surface Water Standards should be used only on an as needed basis, as recommended in the Annual Reports. However, a reduction in sampling frequency and the number of collected samples is justified based on the last three years of sampling.
- Surface water and groundwater sampling at the recommended reduced frequency should continue given that the Peekskill Hollow Brook, which flows through the golf course, is tributary to the City of Peekskill municipal water supply reservoir.

Please contact HES with any questions or should you require any additional information regarding this matter at (914) 276-2560.

cc: Mr. John Benvegna, PG
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