Weldon Quarry Co.

August 19, 2019

Senator Anthony Bucco (District 25)
Senator Steven Oroho (District 24)
Senator Joe Pennacchio (District 26)

Dear Senators:

We are writing to follow up on our letters of May 13th and June 10th regarding additional steps we have taken related to the February 2019 discharge of stone fines from the Weldon quarry near Lake Hopatcong.

In addition to the mitigative steps we detailed in our prior letters, we have continued to work closely with the New Jersey Department of Environmental Protection (NJDEP) to address any additional stone fines which may have accumulated in the on-site stream near the lake. As previously noted, the stream is an unnamed tributary of the lake to the north of Prospect Point Road. In particular, there currently remains in place hay bale dams and a turbidity barrier in the stream to help ensure there are no impacts to Lake Hopatcong. Just recently, during the week of August 12th, Weldon removed material which has accumulated behind the hay bales and turbidity barrier, and the existing hay bales were replaced with new hay bales.

At the request of NJDEP, we retained a NJ licensed environmental engineering firm and NJ certified analytical laboratory to conduct additional sampling at the Weldon quarry and in the stream, including immediately north of Prospect Point Road. It is our understanding that this sampling was requested by NJDEP to assuage concerns that the stream may have contributed to the Harmful Algae Bloom (HAB) observed in Lake Hopatcong. NJDEP conducted similar sampling, and the results have been provided to the Lake Hopatcong Commission. This data, along with information and data available from other State studies and sources, confirms that Weldon's operations have not contributed to the HAB issue in Lake Hopatcong. Specifically, we note the following:

- HAB advisories throughout North, Central and South Jersey underscore the prevalence of HAB throughout New Jersey. This is a widespread issue that is not limited to Lake Hopatcong but has affected every part of the State, as far east as Monmouth County and as far south as Salem County. It has also been prevalent this year regionally, including in New York and Delaware.
- NJDEP's Lake Hopatcong HAB mapping from 2019 does not identify a spatial pattern in the lake indicative of a source from the quarry's stream.
- The sampling conducted confirms that neither the Weldon quarry nor the stream has contributed to the HAB issue in Lake Hopatcong.

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- One of the samples collected in July 2019 was from the water that enters the quarry stream from a rock wall on Weldon's property, which is the most relevant water sample for consideration of the water quality from the quarry operation. The total phosphorus from the rock wall sample demonstrates that the Weldon quarry is not contributing to the phosphorous levels in Lake Hopatcong as follows:
    - The total phosphorus concentration from the rock wall sample (0.025 mg/L) is similar to the total phosphorus from the background location at Weldon Brook/Shawnee Trail (0.0336 mg/L).
    - The total phosphorus concentration from the rock wall sample (0.025 mg/L) is lower than the Jaynes Brook reference (background) location (total phosphorus concentration of 0.0779 mg/L).
    - The total phosphorus concentration from the rock wall sample (0.025 mg/L) is less than the average Lake Hopatcong TMDL phosphorous goal of 0.03 mg/L.
- The July 2019 sampling for total phosphorus at locations in the on-site stream and in other tributaries outside of the Weldon quarry are similar to each other and to concentrations reported for Lake Hopatcong.
    - As reported by NJDEP samples, the phosphorus concentration in Jaynes Brook (an off-site stream unrelated to the Weldon quarry) was higher (0.0779 mg/L) than the phosphorus concentrations in samples from the quarry's on-site stream (0.0492 mg/L and 0.0434 mg/L).
    - Accordingly, the phosphorus levels in the stream are consistent with background levels and are not attributable to the Weldon quarry operations or the stone fines leak that occurred back in February 2019.

- The July 2019 phosphorus sediment data collected from the stream at Prospect Point Road demonstrates that it is not a phosphorous source or concern.
    - Significantly, in 2015, the Montclair State University (MSU)s Passaic River Institute, in collaboration with the Lake Hopatcong Foundation, conducted a study of the phosphorus levels in the sediment in Lake Hopatcong. The MSU report classified sediment concentration ranges as "hot spots," "points of concern," and "cold spots" (which do not warrant concern) as follows[1]:
        - "Hot Spots" were identified as having total phosphorus concentrations in Lake Hopatcong higher than 4,000 milligrams per kilogram (mg/kg).
        - "Points of Concern" reflected total phosphorus concentrations in Lake Hopatcong between 2,000 and 4,000 mg/kg.
        - "Cold Spots" reflected total phosphorus concentrations less than 2,000 mg/kg.

[1] For consistency with reporting units, the Montclair units of gram per kilogram are shown here as milligram per kilogram.

- The July 2019 sediment phosphorus concentration collected from the quarry stream was 1,390 mg/kg and would be classified as a "cold spot" under the MSU approach - and thus, does not warrant any concern under that classification.

- Moreover, given the nature of phosphorus in the sediment (i.e., mineral phosphorus as opposed to more soluble forms of phosphorus) the total phosphorus in the stream sediment does not readily partition to the water column, where it must exist for the HAB to develop. Specifically, NJDEP (2003) states that total phosphorus in sediment does not readily partition to the water column under these types of conditions. The sampled tributaries are aerobic given the flow of water and the shallow depths. Therefore, the phosphorus is bound in sediment and not a contributing source to the water column compared to total phosphorus from the sediment in the lake.

The NJDEP provided detailed consideration of phosphorus sources as part of development of the phosphorus TMDL for Lake Hopatcong. On July 8th, the Lake Hopatcong Commission also noted that Princeton Hydro, the Commission's environmental consultant, concluded that the vast majority "of the phosphorus that enters the lake comes from failing septic systems and storm water." [Lake Hopatcong Commission Recap; July 8, 2019]. This is consistent with Princeton Hydro's prior findings reported to NJDEP that over 80% of the annual total phosphorus load entering Lake Hopatcong originates from surface runoff and septic systems within the four municipalities that immediately surround the lake. [Princeton Hydro, LLC. June 2006. Refined Phosphorus TMDL and Restoration Plans for Lake Hopatcong and Lake Musconetcong, Morris and Sussex Counties]

We are preparing to move forward with the removal of any additional stone fine material that may remain in the quarry stream, and fully coordinating that effort with NJDEP. The company has proposed a removal plan to NJDEP, which we expect will soon be finalized. Upon approval by the NJDEP, we will of course provide another update.

Thank you for your continued attention to this matter. We look forward to our continued discussions with you and the communities you represent.

Sincerely,

Robert F. Weldon III
President

cc: NJDEP Commissioner, Catherine McCabe
Lake Hopatcong Commission