

May 28, 2020

Ms. Maxanne Resnick
Executive Director
Woodstock Land Conservancy
P.O. Box 864
Woodstock, NY 12498

RE: Professional Consulting Services – Noise Study Review and Comment - The 850 Project, Town of Kingston, NY.

File: 2338.001.001

Dear Ms. Resnick:

Barton & Loguidice, D.P.C. (B&L) is pleased to review and provide technical comments on the Noise Reports and response to comments of the noise reports for the 850 Project in the Town of Kingston, NY. The reports reviewed include:

- Initial Report; H2H Geoscience, February 2019
- Response to Comments; H2H Geoscience, June 13, 2019
- Revised Report; H2H Geoscience, November 2019

On a broad scale, it is important for local officials, agencies, concerned groups, and citizens to understand the data and predicted results presented. The results of the studies presented are not consolidated nor summarized in a reasonably understandable format or can they be reasonably used to monitor levels during development or operation should the project undergo construction. Existing and worst-case noise levels for each of the project phases should be provided around the perimeter of the site, state land boundaries, Bluestone Wild Forest, Onteora Lake, Pickerel Pond, trails, and the potentially impacted residents and wildlife. These figures should include complete mapping and landmarks, site boundaries, property lines, and be easily recognized so that, at a minimum, local officials can easily compare the existing noise levels to the project incurred noise levels for each phase. If the project progresses, monitoring noise levels during the project development phases will be critical in confirming compliance and addressing complaints that, as described in the NYSDEC Policy, will occur.

The following comments pertain to the overall noise study, data presentation, and the lack of providing an impact assessment that addresses the entire noise environment. Comments may overlap with various letters and concerns provided by other entities such as the Letter from CHA companies to the Open Space Institute (OSI) and other interested citizens.

1. The study does not take into account air handlers or other equipment that typically would be on the roof of the building(s). Noise levels from these units is consistent and additive, will add to the existing sound environment, and needs to be combined with all the other noise sources.

2. Impacts to all wildlife such as amphibians, birds, and mammals should be addressed.
3. The study appears to assume that only one blast hole drill rig will be used at a time. Two or more drill rigs operating at the same time are very different from a noise perspective than just one at a time. To produce the volume of rock removal proposed, please provide the (actual) maximum number of drill rigs to be used on site at the same time and assume that they will be operating relatively adjacent to each other as many blast holes are required in a concentrated area to produce controlled blasts. Also, account for drilling in multiple locations on the site.

Bluestone is described as a “hard” rock with a Mohs hardness of 7 (for comparison, granite is 6.5 to 7 and Limestone is 3.5 to 4) according to the NYSDEC 2018 Mineral facts publication. Drilling operations will take longer in bluestone than they would in “softer” rock and it is not clear if that has been taken into consideration in the blast rock production which also lends to believe there will be many more than one rock drill operating at the same time.

4. The noise impact from a drill rig appears to be based on the drill rig located at the center of the site. The noise impact should be determined at the closest sensitive noise receptors or receptor area using the actual number of drill rigs that will be operating at the same time and under the circumstances that would cause the worst (noise) case.
5. The report states that “noise levels (84 dBA) for the drill rig was based on a Sandvik DP150 I Pantera at 50’ from H2H historical data”.
 - Please compare and present this information to the actual drill rig to be used.
 - The study stated that the information on noise for the rock drill was from H2H historical data. That data backup needs to be provided for review. It needs to be clarified exactly what the historical data reflects from a noise prospective and how it applies specifically to the 850 project site.
 - If the project will use different drill rig(s), the historical data discussed can be very different than what is actually experienced at the site under operations.
6. The Sandvik website and data specifications state that the noise levels inside the operators cabin will be 80 dBA or less, but no data on 50’ was able to be found. If the Sandvik equipment will absolutely be used, please provide manufacturers noise specifications that can be used to compare to the NYSDEC Noise Policy.
7. The rock drill that will actually will be used needs to be included in the noise study.
8. NYSDEC Table C says typical noise level at 50’ = 98 dba for rock drilling rigs. How does this compare to the data discussed, but not substantiated, in the noise study.
9. The report states that the berm noise barriers claim a reduction of 14 dBA based on historical data from H2H, Please provide the substantiation of that data.

Comment 10 refers to Monitoring Location M-2 from the November 2019 study as an example. The calculations of impacts to M-1 and M-3, Ontario Lake and trails on state land, all share these same general comments and need to be revisited individually even though they are not addressed specifically in this comment letter.

10. The statement "A 30-foot wide by 15-foot high berm will cause a ~14 dB decrease in sound levels produced by mobile and stationary equipment when the sound source is 5 feet below the top of the berm is not substantiated by any data provided or analysis software.

When the "line of sight" from a noise source to a receptor is "cut off" the result is typically a 5 dB reduction for A weighted sound. Reductions of 1.5 dBA +/- for every 3.3 feet can be also expected.

- It is presumed the rock crusher will be used (for four (4) years) during the development and operational phases of the site. Will it be moved as the existing grade is transitioned to the final grade? How many different locations will the rock crusher occupy? Please identify them.
- The rock crusher is shown in Section B-B' to be only 5 or 6 feet tall. It can be reasonably assumed that will not be the case. What is the actual "noise" height of the proposed rock crusher?
- Conservatively, and for example only, reasonably assume the noise from the crusher can be shown to emanate from 10 feet above its base or foundation. This puts the noise from the crusher at elevation 500 feet according to Section B-B' in the 11/14/2019 study. Also, in section B-B', the bottom of proposed berm B-2 is shown more than 100 feet away (see comment 10) at elevation 489 feet. When the berm is added to elevation 489 with a flat top (see comment 11) and 15 feet in height, the elevation for noise attenuating purposes would be 503'.

Based on these elevations, taken from Section B-B', the rock crushers noise source could actually be above, or just a few feet below the top of berm B-2 using the proposed site grades. An attenuation of even 2 dBA at best could be claimed if a few feet below the berm top, not the 14 dBA claimed by the applicant.

Additionally, the grades shown in B-B' for the pre-development phase, place the rock crusher noise source even higher at least 509 feet, which would be 6 feet above berm B-2, that presumably won't even be there yet. Therefore, the actual noise levels from the crusher would be approximately 73 dBA during the pre-development phase of 2 to 3 years, not the 58 dBA claimed.

Using the sound attenuation principles (6dBA per distance doubled) stated by the applicant, the expected noise levels from the rock crusher at M-2 would likely be 70 to 73 dBA in predevelopment and in the final grade conditions, not the 58 dBA claimed in the study.

An increase in existing noise levels of more than 20 dBA (from the existing 52 dBA to 73 dBA) should not be taken lightly. The applicable NYSDEC Noise Policy including as Appendix A in the study, states that an “increase of 6 dB(A) may cause complaints” and human reactions to increases of 5 dBA is considered “intrusive” with increases of 15 to 20 dBA as “objectionable”. There needs to be an analysis accounting for actual elevations of the noise sources and clear results presented to allow reviewers to be fully aware of, and understand, the total combined impacts.

11. The further away the noise barriers are from the source, the less effective the barrier or berm will be due to scattering and other factors. The noise, or sound pressure, does not travel in a parallel path fully intact to the barrier because it begins to spread out over distance in all directions spreading more and more the further it travels. The sound pressure that rises over the berm(s) un-attenuated will increase as the distance between the berm and source increases, rendering the barrier less effective the further away it is.
 - For example: The berm (B-4) shown on Section C-C', is directly adjacent to the blast hole drilling rig rendering that berm relatively effective in the case of receptor M-1. If the rock drill was say, 125+ feet away from the barrier, the effective attenuation of the barrier would be less. Yet, the applicant claims the same attenuation of 14 dBA for this example as they do for the barriers that are 125' or more from the example noise sources. There is no accounting for the increased distances between noise sources and barriers that exists in real situations. This needs to be addressed to fully quantify the noise impacts.
12. The proposed berms also have “breaks” which reduce the effectiveness. The applicant should verify, quantitatively, the reduced effectiveness of the proposed berms with breaks in them.
13. Earth berms should have a flat top to work optimally and the theoretical “point” on the top of a berm is not practical, stable, or sustainable from a construction standpoint. The barriers will not perform as predicted and need to be revised or predicted attenuation corrected (reduced) as appropriate.
14. The report does not appear to address the noise from truck traffic by combining these levels to the other on-site noise sources.
15. The surface of the ground is highly reflective (hard rock) and linear source noise such as the noise from haul trucks, would not be expected to be attenuated at 6 dBA consistently over rock. A more conservative rate of 3.0 dBA over hard surfaces is more appropriate with 4.5 dBA over “soft ground” as per NYSDOT and FHWA guidance (referenced here as most appropriate for linear moving motor vehicles). Testing with actual truck traffic, measured at distance doubling intervals on-site could be used to show actual results if the applicant feels more than 3 dBA inverse square law attenuation is applicable.
16. Trucks will be idling on the site, this needs to be added to the other on-site project produced noise levels.

17. The studies discuss vegetation and trees helping to attenuate noise levels such as a dense forest will do. The areas between the project site and sensitive receptors consist of a greater majority of deciduous trees and will not provide attenuation as claimed during non-peak foliage and underbrush periods. As we understand, there may have also been tree removals, approved in 2019 by the Planning Board for no more than two acres. There has been no confirmation on what the actual cleared acreage was. Please revise the attenuation that was based on trees and vegetation accounting for reduced density during non-leaf periods, tree removals, and sparse underbrush.
18. The study references the construction period or site development phase as temporary. It appears that this period will be three (3) to four (4) years, which would not likely be considered “temporary” to the impacted resources or even the general public.
19. Building materials and construction need to be considered in attenuation of interior noise transmission to outside the confines of the building. The density of the building materials may not be enough to fully attenuate interior noise. Known mitigation measures in similar facilities included installation of noise absorption/attenuating mats to reduce noise levels escaping the building. Doors and windows are also points of exit for interior noise to become outdoor noise and have been a contributing factor in similar facilities. The noise levels from these sources need to be addressed and accounted for.

Additionally, an all-inclusive description and quantification of noise sources inside the building needs to be evaluated and included. Backup alarms from forklifts, jackhammering of concrete waste from tooling, and air compressors, are examples (but not all-inclusive) of noise sources that need to be evaluated.

20. Noise contour plans/maps should be required by the Town as they can easily be used to represent the existing and proposed noise environment at the site including all sources and provide a full understanding to fully assess the projects’ noise impacts. At a minimum, the actual expected levels compared to existing levels need to be represented in a consolidated manner.

If you have any questions at all concerning this proposal, please do not hesitate to contact me at our Albany Office at (518) 218-1801 or by cell phone at (518) 423-1062.

Sincerely,

BARTON & LOGUIDICE, D.P.C.



Thomas C. Baird, P.E.
Associate
TCB/