



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

REQUEST FOR MORE INFORMATION

November 22, 2019

Mr. Eliot Wilkins & Erik Travis
RRB5, LLC
607 Calef Highway
Barrington, NH 03825

RE: Alteration of Terrain Permit Application AoT 190917-177
TurboCAM International
Route 9 – Barrington, NH
Tax Map 233 Lot 77 & Tax Map 234 Lots 1.2 & 1.4

Dear Mr. Wilkins & Mr. Travis:

The Department of Environmental Services (DES) is in receipt of an application and supporting plans and information, for an Alteration of Terrain Permit for the above referenced project. After review of the information submitted, the following items need to be addressed in order for DES to make a **final determination** on the application for a permit:

1. Class A Surface Waters (RSA 485-A:9)
 - a. Please note that this project is within the watershed of a Class A surface water. In accordance with Env-Wq 1503.11(i), the applicant shall submit information to demonstrate that the project will not cause a net increase of phosphorus and nitrogen in the watershed. At this time, DES does not require that you demonstrate that the project will not cause a net increase of phosphorus or nitrogen if a BMP that provides the highest level of pollutant removal is used. These BMPs include gravel wetlands or bioretention systems with an internal storage volume and filter media amended, typically with iron filings or water treatment residuals. One of these BMPs should be used for this project to treat stormwater runoff from paved areas. Due to the likelihood of design changes the porous pavement system was not included as part of this review.
 - b. It is acceptable to use bioretention systems for treatment of the roof runoff with implementation of any required revisions per this letter.
2. It is noted in the application that 10,000 cubic yards of ledge will require removal by blasting. Please identify all drinking water wells located within 2,000 feet of the proposed blasting activities and develop a groundwater quality sampling program to monitor for nitrate and nitrite either in the drinking water supply wells or in other wells that are representative of the drinking water supply wells in the area. The plan must be submitted to NHDES for approval prior to issuance of the permit, and must include pre and post blast water quality monitoring. The groundwater sampling program must be implemented as approved by NHDES. Please add to the plans the best management practices contained in Env-Wq 1510 or Attachment A of the DES document Rock Blasting and Water

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Quality Measures That Can Be Taken To Protect Water Quality and Mitigate Impacts available at:
<http://des.nh.gov/organization/commissioner/pip/publications/documents/wd-19-05.pdf>

3. It appears the Wellhead Protection Area extends into the area of the bioretention systems. This requires a 24" thick filter media.
4. NH Heritage Bureau (NHB) Report:
Please provide written concurrence from the NH Fish and Game Department (NHFG) that the project is not expected to affect the species reported by the NHB data check as potentially occurring in the project area. Please coordinate with NHFG contact Kim Tuttle (Kim.Tuttle@wildlife.nh.gov) and provide written documentation from NHFG back to DES demonstrating that any concerns raised by NHFG have been addressed to that agency's satisfaction and provide documentation that reflects how the recommendations of NHFG have been incorporated in to the proposal.
5. Drainage Analysis (Env-Wq 1504.09)
 - a. Provide a copy of the extreme precipitation data table to support the analysis.
 - b. Based on aerial photography, it appears as though there has been clearing and stumping, as well as construction of a gravel access drive within the past 10 years on Lots 1.2 & 77. Pursuant to Env-Wq 1503.12(d), any terrain disturbance in the past 10 years must be deemed part of this project. The Pre condition should model the land use that existed 10 years ago, with the areas designated as "woods, good". The grading limits that exist today and that were approved under AoT-486A for construction of the road can be retained as *open space, good condition*.
 - c. The wetland areas should not be modeled as an impervious water surface but should be reflective of the Site Specific Soil Survey and cover type.
 - d. Review the need for reaches and how subcatchments are routed to reaches in the analysis. Subcatchments should only be routed through reaches if the entire subcatchment flows through the reach. Many reaches should not be included in the analysis and subcatchment boundaries may require adjustment. It appears at a minimum the following reaches should be eliminated: ER70, ER74, ER75, ER80, ER82, ER90, ER91 & PR61.
 - e. EP70 & EP80: The existing grade contours are not representative of a pond but rather a reach.
6. Pre-Development Drainage Analysis (Env-Wq 1504.09)
 - a. ES14: Review the cover types. There appears to be too much grass and too little woods in the subcatchment.
 - b. ES15A & B: Please break out these subcatchment individually with the appropriate soil, cover type and Tc.
7. Post-Development Drainage Analysis (Env-Wq 1504.09)
 - a. The analysis does not reflect a change in cover type for the area that is proposed to be cleared and stumped. Please use a representative cover type such as open space in fair condition (not meadow or brush). If the area will be seeded, open space in good condition is acceptable, but seeding must be specified on the plans.
 - b. The subcatchments that drain to bioretention systems cannot use a lag time for infiltration through the filter media. This is only acceptable for porous pavement where a smaller area is draining to the system and the system flows as unsaturated flow. The Tc can be a minimum of 6 minutes.
 - c. Bioretention Systems: If the system will be underdrained due to separation requirements, infiltration should not be included in the analysis. However, exfiltration through the filter media

should be modeled as an outlet (10 inches per hour design for 20 inches per hour actual), and routed to the underdrain. The rate of exfiltration may be the controlling outlet.

8. Temporary Sediment & Erosion Controls
 - a. Depict additional perimeter erosion controls downslope of the limits of grading to the southeast of the southerly parking lot limits.
 - b. Depict or specify temporary check dams in swales.
 - c. Depict a stabilized construction entrance on the plan.
9. Drainage Details
 - a. Specify one of the two filter media options in Env-Wq 1508.07(k)(4) for the filter in the bioretention systems.
 - b. Please include a sediment trap detail in accordance with Env-Wq 1506.10.
 - c. Some of the Bioretention Systems are placed on fill above the native soil. In accordance with Env-Wq 1504.14, please add a note that the fill will require infiltration testing to confirm that the infiltration rate exceeds that of the native soil for each system in the typical detail. It will be necessary to provide the infiltration rate of the native soil for each system on the plans. Alternatively, provide a specification for the fill to be used for all three systems that will meet this requirement. The fill should also be added below the stone in the typical cross section on Sheet D3.
10. BMP Worksheets:
 - a. For WQV storage requirements, the bioretention systems can only include the storage above the base of the filter media, not the stone below.
 - b. If the bioretention system is under drained, please use 10 inches per hour in the worksheet to verify the practice will drain in 72 hours.
11. Inspection and Maintenance Manual:
 - a. Please provide the contact information for the individual required to complete the reporting, inspection, and maintenance activities identified in the I&M report.
 - b. Include a BMP Location Plan. An 8.5x11" or 11x17" reduced copy of the grading and drainage plan marked up with a highlighter is acceptable.
12. After any necessary revisions to the HydroCAD analysis to respond to the above, submit a revised summary table of the 2-year, 10-year and 50-year pre- and post-development flows, and if necessary, the 2-year pre- and post-development runoff volumes or 1-year flow (pre), to show compliance with the requirements of Env-Wq 1507.05(b).
13. Pursuant to Env-Wq 1503.15(b), changes to the revised plans are to be called out and a revision date must be added to each page that has been changed. Graphical revision call-outs should be included on the plans. If any changes to the plans or the hydrologic/hydraulic analysis were made other than those identified above, please indicate what additional changes were made in your response letter.
14. Project CD:

Please note that, in accordance with Env-Wq 1503.20(e), within one week of a project being permitted the department requires that a CD be submitted which includes a copy of the plans and the drainage report (including the summary, drainage analysis, riprap sizing calculations, USGS map, etc), all in PDF format. This will assist DES in minimizing our long-term file storage space requirements.

Please respond to this request for more information letter in accordance with the provisions of Env-Wq

1503.15. Please include the file number on your response to this request, as well as a narration of the changes from the current application. Please be aware that in accordance with RSA 485-A:17, if all of the information requested above is not provided in a **single and complete** response within the next 120 days, **March 21, 2020, your file will be denied**. If you have any questions, please call me at (603) 271-3249 or email at: michael.schlosser@des.nh.gov.

Sincerely,



Michael Schlosser, PE
Alteration of Terrain Bureau

cc: Barrington Planning Board
Bruce Scamman, Emanuel Engineering, Inc. (via email)