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February 9, 2021

Members of the Hollis Planning Board
7 Monument Square
Hollis NH, 03049

Re: 365 Silver lake Rd Subdivision Design Review plans dated 1-25-2021

Dear Members of the Planning Board,

I am a licensed professional civil engineer in the state of New Hampshire (License #5220). I have reviewed the development plans submitted to the Town Of Hollis New Hampshire on Jan 28 2021 for file PB2020:024. These plans are titled "Alternative Roadway Layout-2" and are dated 1-25-2021. The following letter represents my professional opinion as a licensed engineer. I reviewed the referenced plans for compliance with the following three regulations of the town of Hollis.

1. Hollis Subdivision Regulations; Road Standards Section; Section IV.7 E
Table of Geometric and Other Standards; Maximum grade 100' from intersection
2. Hollis Road and Driveway Specifications Appendix; Road Specifications Section D
Pavement Design
3. Hollis Subdivision Regulations; Road Standards Section; Section IV.7 F
Section 2 Maximum disturbed width of land associated with the construction of a road

Considering the maximum grade 100 feet from an intersection, I find that the proposed roadway is not compliant from the intersection of the internal loop road located approximately at station 11 + 00 to approximately station 12 + 00. The requirements of the Hollis Subdivision Regulation table of Geometric and Other Standards indicate that the maximum grade within 100 feet of an intersection is 3%. The grade of the described section is more than twice the allowable maximum. This could present a safety concern for traffic approaching the intersection since sight lines are reduced.

Hollis Road Standards section D impose the requirement for a 4:1 down gradient slope on the side of roadways in areas of cut. This requirement provides a ditch to prevent runoff and debris from flowing across the road surface. The developer has provided profiles at station 8+80 and station 25+80 that do not include this 4:1 down gradient slope. This is a safety concern due to the possibility of runoff and ice buildup on the roadway.

Considering the requirement for maximum disturbed width of land associated with the construction of a roadway, I find that non compliance exist at stations 8+80 and 25+80. The requirement limits the maximum width of the disturbance associated with the construction of a roadway to 100 feet. The profiles provided by the developer do not account for the 4:1 down gradient

slope on the cut side. When the required slopes are provided, the disturbed width will exceed the maximum allowance of 100 feet. In addition safety dictates that a guard rail be installed on sections of roadway where the fill slope is steeper than 4:1. The addition of a guardrail would add another foot in width to the disturbed area which would cause it to further exceed the allowed 100 foot maximum disturbance requirement.

My review was limited to those items described above. It is my professional opinion as a licensed civil engineer that the items described above are not compliant with the referenced Hollis regulations. These non-compliance represent potential safety concerns to future users of this roadway if these plans are approved.

Thank you for your attention to these matters and should you have any questions or require additional information please contact me at your convenience.

Regards,



John F. McQuilkin, PE