DuBois & King inc.

ENGINEERING • PLANNING • DEVELOPMENT • MANAGEMENT

621863P1
February 4, 2013

Ms. Marcia Gasses
Town Planner & Land Use Administrator
Town of Barrington
PO Box 660
Barrington NH 03825

SUBJECT: Trinity Conservation LLC, Map 210 Lot 57
Engineering Review

Dear Ms. Gasses:

As requested, we have completed our review of the revised site plan application for the above referenced project. Our review services were limited to a review of the Stormwater Management Report by TF Moran (dated January 18, 2013) and associated Site Plans (dated January 17, 2013) as well as the potential effects of the proposed truck traffic. The following were comments noted during the review.

1. The stormwater report lists the elevation of the seasonal high water (ESHWT) table for boring #4 (the only boring within the confines of the sedimentation basin) as 171.8. However, the design criteria sheet states the ESHWT as 168. We would recommend that this discrepancy be addressed and the bottom of the basin be adjusted accordingly to provide an appropriate separation from the groundwater table.

2. The proposed vehicle maintenance pad (sheet 11) does not appear to meet the best management practices for fueling and maintenance of excavation and earthmoving equipment in accordance with NHDES regulations. Specifically, secondary containment equipment used during mobile fueling should be sized to contain the most likely volume of fuel to be spilled during a fuel transfer. Containment examples would be a rigid or flexible "pop-up" pool or berm.

3. A sightline plan (sheet 6A) was submitted via email separate from the plan set. The plan has a January 30, 2013 date. The sight distance is based on the driver's eye (7'6") for a large truck. However, the sight distance for a standard vehicle would appear to be much less based on the profile shown. We would recommend that the plan/profile be revised to include a standard vehicle.

4. A resilient modulus of 38,500 psi was used in the analysis of the roadway. This number was obtained from Special Report 99-14, Resilient Modulus for New Hampshire Subgrade Soils for Use in a Mechanistic AASHTO Design, U.S. Army Corps of Engineers, 1999. In Table 16 of the Report, five (5) different moduli are presented for varying soil types, and the HTE has used the value for soil NH3. The modulus for the NH3 soils is much higher than any other modulus in the Table, and is based on soil containing high amounts of sand and gravel. Upon review of the boring logs, it appears that many of the samples contained more than a trace of fine sands, and therefore, soil type NH3 may not be representative of the soils found under Green Hill Road, specifically the eastern portion. We suggest that a more conservative resilient modulus be chosen, and that the analysis be rerun with the new value. It should also be noted that the resilience modulus values are based upon relatively dry soil conditions and that at times when there is more moisture in the road base the road will be more susceptible to damage due to the reduced strength of the soils. Based on the above, we do not agree that the typical Barrington Subdivision Regulations road construction standards are suitable for the east end of Green Hill Road. Specifically, Article 15.8 (Road Construction Standards) states "these are minimum standards" and "the amount of base course materials shall be increased in areas of poor soils and for roads carrying commercial/industrial traffic."

If you should have any questions or comments, please call me.

Very truly yours,
DuBOIS & KING, INC.

Jeffrey A. Adler, P.E.
Senior Project Manager

JAA/js