

Tuftonboro Conservation Commission  
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Mr. David Ford, PE  
Director of Public Works and Water/Sewer Utilities  
9 Union Street-PO Box 629  
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August 25, 2009

**Subject: Wolfeboro's Rapid Wastewater Infiltration Disposal  
System (RWIDS), Follow up response to August 12, 2009 letter  
from Wolfeboro Public works and Water/Sewer Utilities Department**

Dear Mr. Ford,

Thank you for your letter dated August 12, 2009 responding to our letter of concern dated July 31, 2009, and we also wish to acknowledge our receipt of the Wolfeboro Action Plan, also dated August 12, 2009.

We have read both items. One of our representatives visited the site on August 19, 2009, and the TCC also revisited the site on August 22, 2009. Here are our conclusions based on your letter, the Wolfeboro Action Plan, and our visits:

Overall, we are concerned about the visible accumulation of algae in the Brook and we feel that the engineering justifications that you provided in your letter do not ameliorate the reality of the situation.

We note that the water quality sampling of some of the seepage areas is being performed by Woodard and Curran. Specifically, they have sampled at the head and downstream areas of both down slope wetland areas (19MB7, 8, 9 and 10) for nutrients and other parameters as well as several sites in Nineteen Mile Brook (the Brook). However, it is our understanding that they have not sampled the seeps immediately below the fill area below the Rapid Infiltration Basins (the RIBs), perhaps because they feel that the seepage flow from these areas does not directly enter the Brook. On August 19, 2009, these unmonitored seeps were bright green with algae, and clearly, excess nutrients are sufficiently present to stimulate algae growth in these seep areas.

With respect to the chemistry of the seepage areas where sampling is being done, it is clear that nitrogen levels are also elevated. Similarly, both chloride and conductivity are substantially elevated, as would be expected, but it is less clear that phosphorus is, or may be, elevated.

In the Brook, testing has not indicated elevated nutrients, and we suspect this is because, in part, of the high flows. Water quality sampling in the Brook during low flow conditions would confirm this and we would encourage that sampling be done at that time. Nevertheless, both chloride and conductivity appear to be elevated as a result of the RWIDS, even at the higher flows, which indicate to us that other parameters may be elevated and should be included in the suite of analyses. Furthermore, at this time of the year (i.e., summer growth period), biological activity may be temporarily taking up some nutrients that may subsequently be released to the Brook. When the growing season ends, we expect that elevated nutrients in the Brook are more likely to be apparent. Our concern here is that although there may not be a biological response in the Brook in the “off season”, nutrient loading to tributaries of Lake Winnepesaukee is a concern regardless of season.

The foregoing comments concerning the lack of sampling in the breakout areas, and the other sampling being performed in the head and downstream areas of both wetlands, lead us to the following recommendations:

1. Testing of the seeps that are downslope of the fill area and below the RIBs for phosphorus, nitrates, etc., not just flow, must be initiated by Wolfeboro. Statements to the contrary notwithstanding, the TCC is of the opinion this flowage is, at times, a direct discharge to the Brook. We have observed algae growing in the Brook immediately downstream of the discharge and expect that other biological communities (i.e., benthic macroinvertebrates) may also be influenced by this discharge.
2. The TCC does not agree that there has been no impact from the RWIDS to the Brook. It is visible. Moreover, it appears that the analytical testing procedure for phosphorus should be revised to yield a lower detection limit for phosphorus to improve data quality. For example, present testing is using a protocol that detects total phosphorus down to 0.010 mg/l, but the background level in the Brook may often be less than that 0.010 mg/l. An “ultra low level” procedure can be implemented which can provide a total phosphorus detection limit of 0.004 mg/l. The testing protocol is the same (EPA 365.3) for each method, but apparently a modified sample processing procedure allows for the ultra low detection level. Adopting the ultra low level detection procedure accomplishes two things. First, it reduces the level of detection to 0.004 mg/l. Second, it improves the reliability of low level total phosphorus measurement when levels are in the 0.005 to 0.020 mg/l range. Because we expect this range of total phosphorus levels is likely to be representative of what we will see in Nineteen Mile Brook, we recommend that Wolfeboro start to use the “ultra low level” protocol for total phosphorus that measure down to 0.004 mg/l.

We request Wolfeboro implement these recommendations in their monitoring program. We believe that these requests are reasonable, technically sound, and will provide a clearer conceptual understanding of how effectively the RWIDS is operating.

In conclusion, we are not convinced that environmental impacts are being avoided through the process of “re-infiltration” from seeps. We also continue to be alarmed by the promotion of algae in the Brook. In response to that, the TCC has begun to periodically observe the Brook to document the presence and cover of algae and record observations using EPA Rapid Bioassessment Protocols. Achieving proper water quality standards that do not promote algae growth in tributaries entering Lake Winnepesaukee is one of our major concerns.

We look forward to hearing from Wolfeboro and/or the State concerning our recommendations.

Sincerely,



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Tuftonboro Conservation  
Commission (TCC)



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