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April 15, 2007

Via E mail & Postal Priority  
Scituate Conservation commission  
Scituate town Hall  
600 Chief Justice Highway  
Scituate, MA 02066

Re: 126 & 132 Chief Justice Highway  
DEP # SE 068-1988

Dear Commissioners:

My name is Mario DiGregorio. I am a professional wetland scientist with 25 years field experience in southeastern Massachusetts, Cape Cod and the Islands. I submit this report on behalf of Citizens for the Protection of First Herring Brook ("Citizens") regarding the proposed development of a sixty-unit housing complex at the above property.

The site, which totals more than 15 acres, is comprised of salt marsh (310 CMR 10.32), Bordering Vegetated Wetland (310 CMR 10.55), Isolated Land Subject to Flooding (310 CMR 10.57), Land Subject to Coastal Storm Flowage (310 CMR 10.02), Riverfront Area (310 CMR 10.58), 100 foot buffer zone and, under the Scituate wetland protection by-law, Isolated Vegetative Wetland. None of these resource areas have been flagged or demarcated in the field, making it difficult to ascertain the extent and juxtaposition of these resource areas as they appear on the ground.

After review of the Notice of Intent and 11 sheet site plans submitted by SITEC engineering dated October 6, 2006, and after my own recent on-site field investigations on March 14, March 30 and April 10, I present the following observations and conclusions in relation to the proposed project, and in response to several issues raised by SITEC in its recent correspondence to the Commission:

1. **Hydric soil** is defined in the *Manual for Delineating Bordering Vegetated Wetlands* by DEP ("Manual"-1995) as "a soil that is saturated, ponded, or flooded long enough during the growing season to cause anaerobic conditions in the upper part". Anaerobic conditions produce physical and chemical changes in the soil that are readily observable *if the original hydrology is intact and undisturbed*. The Manual states explicitly that hydric soil indicators generally require many years to develop.

2. The mowing, disking and ploughing in September of 2003, less than a year prior to the ANRAD filing, attested to via affidavit by Anthony Giacomozzi, have in my opinion created conditions that have the effect of inhibiting analysis of the presence or absence of hydric soils. Specifically, disking, ploughing and harrowing can create a mixing of soil horizons and can destroy redoximorphic conditions in the Ap and B horizons that may have formed before the ploughing during a long period of lying fallow.

Quoting from the DEP manual for Areas Where the Hydrology has been recently altered, *“Where there is evidence that the hydrology has been substantially altered at a site, careful evaluation of vegetation, soils and other indicators of hydrology should be made before making a final delineation. Altered areas are particularly difficult to evaluate and require special attention.”*

During my site walks, I observed more than 50% wetland plant indicators both within and outside of the IVW as I understand its purported IVW limits from the plan. The majority of the wetland plant indicators included purple loosestrife (*Lythrum salicaria*-Fac.Wet) and tall reed (*Phragmites australis*-Fac.Wet). The U.S. Fish and Wildlife Service's List of Plants that Occur in Wetlands: Northeast Region (1986), categorizes plants classified as Fac.Wet as occurring in wetlands 66-99% of the time.

3. SITEC characterizes the remnant wetland vegetation within (and without) the IVW as being opportunistic and invasive with no real wetland values. I disagree with this statement as these species protect the interests of Protection of Wildlife Habitat, Prevention of Pollution, Flood Control and Storm Damage Prevention.
4. According to the Manual, deep dark plough layers greater than 12" depth with values less than 3 and chroma of 2 or less are nearly impossible to analyze due to the difficulty of seeing indicators of saturation. The plough layer on the Herring Brook Meadow field averaged 24" or twice as deep as the minimum cited by DEP. Even in agricultural areas, this is a very deep plough layer. Matrix color was 10 YR 2/2 in the Ap horizon in the holes I inspected.
5. It is my opinion that the clearly visible IVW on the property to the south of the project property is in fact part of the same IVW identified on the project property. Comparing these two portions of the same resource area by sampling on each side of the wall that divides them is instructive in assessing what the project property was like pre-alteration (and could be again, if allowed to naturally restore). Along the south side of the wall, I dug several test holes with a Dutch auger and an 18" soil probe. All indicated groundwater at or above 12" from top of grade. All displayed reduction and precipitation of iron along root channels (oxidized rhizospheres), Fe concretions and high chroma mottling (concentrations). It is my professional opinion that similar conditions in the soil solum would exist in the

