

COMMITMENT & INTEGRITY  
DRIVE RESULTS

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April 26, 2007

Mr. Richard Agnew  
Town Administrator  
Town Hall  
600 Chief Justice Cushing Highway  
Scituate, MA 02066

Re: Evaluation of Resource Area Delineation for Herring Brook Meadow, LLC Project

Dear Mr. Agnew:

Woodard & Curran Inc. submits this letter report presenting the results of our assessment of the existing file record of the Scituate Conservation Commission and other data sources pertaining to the proposed Herring Brook Meadow, LLC development project located at 132 Chief Justice Cushing Highway (the Site). This review was performed at the request of the Town in order to independently assess whether an Order of Resource Area Delineation (ORAD) issued by the Conservation Commission in 2004 was consistent with the conditions at the site and whether past alteration of the site may have impacted resource areas or the ability to establish an accurate resource delineation boundary. The following sections present our findings and recommendations.

### Introduction

As part of a Notice of Intent (NOI) application submitted by SITEC Environmental (SITEC) on behalf of the developer, Herring Brook Meadow LLC (Herring Brook), an "Existing Conditions and Wetland Resource Areas Plan" (Plan) was submitted on which Resource Areas, as defined under the Wetlands Protection Act and Scituate Wetlands By-Law, were identified and located. Of these Resource Areas, the boundary of an Isolated Land Subject to Flooding (ILSF) was indicated on the Plan as occurring at elevation 7 ft. within an open meadow bordering the southern boundary of the property. An Isolated Vegetated Wetland (IVW) was also depicted as occurring within a portion of the ILSF, extending southward onto the adjacent residential property at 11 Martha's Lane. In 2004, the Scituate Conservation Commission approved the location of both of these Resource Areas through issuance of an Order of Resource Area Delineation (ORAD).

It has been reported that in 2003 the open meadow on the Site (encompassing the ILSF and IVW) was mowed, tilled, harrowed and planted with winter rye. During the public hearing process by the Conservation Commission for the current NOI application, as well as during public hearings by the Scituate Zoning Board of Appeals (ZBA) under a state Chapter 40B application for affordable housing at this Site, questions were raised regarding the accuracy of the ILSF/IVW delineation following disturbance of native vegetation and soils from the plowing and seeding activities. Since 2004, there have been numerous reviews, responses and rebuttals made regarding the resource areas, their boundaries, and the accuracy of the information upon which the ORAD was based.

Woodard & Curran has evaluated information on the Site submitted with the ORAD and NOI applications, as well as related information from Town records, with respect to the ILSF/IVW delineation in order to determine whether sufficient data have been collected to support this delineation, in light of past agricultural activities, or whether additional assessment is warranted to further confirm the boundaries of these Resource Areas. Sources relied upon for this evaluation include:



1. SITEC Environmental. *Wetlands Resource Area Report, 126 & 132 Chief Justice Cushing Way (Rt. 3A), Scituate, MA.* August 10, 2004.
2. SITEC Environmental. *Notice of Intent Filed under MA Wetlands Protection Act for Proposed Herring Brook Meadow, 126 & 132 Chief Justice Cushing Way (Rt. 3A), Scituate, MA.* October 25, 2006.
3. SITEC Environmental. *Abbreviated Notice of Resource Area Delineation,* September 11, 2004.
4. BSC Group. Facsimiles to Town of Scituate Conservation Commission, dated 9/28/04 and 10/18/04. Re: ANORAD Application, 126 and 132 Chief Cushing Highway.
5. SITEC, April 2, 2007. Letter from Roderick Gaskell, SITEC, to Scituate Conservation Commission, Re: Herring Brook Meadow –ILSF & IVW Clarification (MADEP File No. SE06-1988)
6. April 15, 2007 Letter from Mario J. DiGregorio to Scituate Conservation Commission, Re: 126 & 132 Chief Justice Highway, DEP #SE 068-1988.
7. Horsley Witten Group, March 9, 2007. Letter to Scituate Conservation Commission, Re: Notice of Intent Review – Herring Brook Meadow, Scituate, MA, DEP File # SE-068-1988.

### Previous Evaluations

SITEC's "Wetland Resource Area Report" (dated August 10, 2004) indicates that the open meadow in which the ILSF/IVW are located was recently cultivated for corn and that vegetation was disturbed. Consequently, SITEC completed a series of hand-augured probes (to approximately 2' below grade) along two transects (Transects 'A' and 'B', as shown on the Plan) to evaluate the presence of hydric soils. Review of SITEC's field data cards on which soil/vegetation information was recorded (included in SITEC's ANRAD filing, 8/10/04) indicates that soils in the Ap horizon, which ranges in depth from approximately 12-18" below grade, do not appear to exhibit hydric characteristics, with the exception of two points (A-10' and B25') located within the boundaries of the IVW. SITEC included all land within the 7-foot contour as ILSF, apparently due to the sporadic presence of hydric soils and/or wetland indicator vegetation. During the ANORAD filing process, the Scituate Conservation Commission hired BSC Group to confirm the boundaries of Resource Areas at the Site. With regard to the ILSF, BSC concluded that "...the revised plan accurately identifies the limits of the Isolated Land Subject to Flooding..." based on their independent evaluation of soils and vegetation (10/18/04 facsimile). It is not known whether BSC was aware of the prior disturbance from ploughing, tilling and seeding of the area, or whether this information would have changed their assessment.

On March 23, 2007 SITEC conducted a supplemental evaluation of the IVW, completing an additional 5 soil borings (AH-1 through AH-5). None of the soil borings indicated hydric conditions, although wetland vegetation (*phragmites*) and saturated/inundated conditions were observed. On March 30, 2007, Mario DiGregorio, on behalf of a neighborhood group, conducted an independent evaluation of conditions on the property accompanied by a SITEC representative. Mr. DiGregorio noted the presence of greater than 50% wetland indicator species, both inside and outside the delineated IVW, as well as the presence of hydric (low-chroma) soils, although the location of these soils was not noted in his letter. Mr. DiGregorio also evaluated soils off the Site on the (undisturbed) southern side of a stone wall on the adjacent property to characterize undisturbed wetland soils of the IVW/ILSF that he noted is hydrologically connected to the IVW/ILSF on the Site. His letter concluded: "Due to the complexity and



ambiguity of a large site almost completely altered by extensive disking, mowing, harrowing and ploughing, the extent of the vegetative wetlands in the open field is very difficult to ascertain and has not been accurately portrayed or justified in the submitted documents." This conclusion is different from that stated by SITEC in their April 2, 2007 letter, which reads: "The consultant [Mr. DiGregorio] observed soil conditions within and around the ILSW...these observations were consistent with...the SITEC 3/23/07 reassessment of IVW and the 2004 SITEC and BSC findings" [page 7].

A number of additional reviews of the Site were also conducted by other firms, including Pennoni Associates and Woodard & Curran, Inc. for the ZBA and Horsley Witten for the Conservation Commission. While these separate studies examined aspects of the Site and its resource areas, these efforts were not coordinated between the two town boards and their respective consultants, and none looked at the details of the past ORAD determination nor of the claimed effects of the earlier tilling and seeding that preceded the ORAD determination.

### Findings and Recommendations

As noted above, the ILSF/IVW are located within an open meadow that had been altered by ploughing and planting in recent years, but has generally been reported to not have been in active agricultural use. This alteration was done prior to delineation of wetlands and issuance of the ORAD. Such soil disturbance and removal of surface vegetation are considered "problem" soils where delineation of wetlands is not easily characterized. In such instances, MassDEP and the U.S. Army Corp of Engineers wetland delineation guidance recommends that soils and other indicators of hydrology be used to define the wetland edge in soils that have been disturbed (e.g., through plowing or filling). The soils and wetlands evaluations conducted to date by SITEC have generally been in accordance with this guidance (e.g., through evaluation of soils), although less emphasis has been placed on basic hydrology of these areas, which are routinely inundated following storm events and periods of seasonal high groundwater. Hydric soil morphology results over a number of years and may persist even after hydrology of the area is disturbed. Thus, in cases where land has been plowed or tilled and wetland vegetation is not dominant or apparent, soils with the plowed surficial layer (Ap horizon) and in layers below may still retain characteristics of hydric soils, although plowing/tilling will likely disrupt the normal sequence of horizons, causing random redoximorphic features and inverted soil horizons. The sporadic occurrence of hydric soils may possibly reflect such anthropogenic activities on the soil rather than giving an accurate indication of true conditions.

Although, as SITEC notes, the dominant vegetation in these areas are invasive species (*phragmites* and purple loosestrife), both these species are wetland indicator species. The dominant presence of wetland species, routine inundation of the area and sporadic occurrence of hydric soils support the conclusion that the general area of concern exhibits wetland characteristics. However, as pointed out by both BSC Group and Mr. DiGregorio in their comment letters, the already difficult delineation of ILSF/IVW boundaries has been compounded by SITEC's not having visibly flagged these resource area boundaries in the field, but only shown them on a plan as represented by contours. This absence of flagging in the field is, in our opinion, an easily remedied deficiency that if applied would provide a conclusive method of addressing the questions and concerns that have been raised. The absence of flagging makes it difficult for any reviewer to accurately replicate SITEC's delineation.

Given the information available to date, Woodard & Curran recommends to the Town that, at a minimum, SITEC be asked to provide the following information:

1. Flagging should be done of the boundaries of the ILSF and IVW in the field. In addition, flagging should also be done at locations in proximity to resource areas to show the proposed



limits of proposed buildings, paving and roadways, retaining walls and wastewater discharge beds.

2. Because of the significant past disturbance of soils in and around the ILSF/IVW at the Site and the series of correspondence between SITEC, the town boards and various consultants, we also recommend that SITEC corroborate all information on the ILSF/IVW previously submitted by them and, additionally, SITEC respond to the specific comments made by other consultants and provide this information to the Conservation Commission in one comprehensive report.
3. Lastly, we recommend that once these activities are completed, the boundaries of these areas of concern (ILSF/IVW) are reevaluated in the field by an independent wetland consultant for the Town and/or Conservation Commission to confirm the consolidated data and SITEC's latest information. While we acknowledge that several consultants have reviewed the ILSF/IVW boundaries thus far, we feel that a (final) independent evaluation is warranted given the high degree of difficulty in establishing resource boundaries in this case given the highly disturbed conditions at the Site combined with the absence of coordinated/consolidated reviews among consultants, plus the significant alteration of Resource Areas proposed in the NOI application for this major development project.

We will present our findings at the Conservation Commission meeting on April 26, 2007. If you have any questions, please call me.

Very truly yours,

WOODARD & CURRAN INC.

Daniel Garson, AICP  
Senior Vice President

cc: Neil F. Duggan, Acting Conservation Agent  
Scituate Conservation Commission