

Horsley Witten Group

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May 7, 2007

Scituate Conservation Commission
c/o Mr. Michael Clark
Scituate Town Hall
600 Chief Justice Cushing Way
Scituate, MA 02066

**Re: Notice of Intent Second Review – Herring Brook Meadow, Scituate, Massachusetts
DEP File # SE-068-1988**

Dear Members of the Scituate Conservation Commissioners:

Following receipt of additional information from the applicant, the Horsley Witten Group (HW) has these additional comments regarding the proposed project. These comments are based upon the following new information received:

- Response letter and attachments from Roderick Gaskell and Raymond Quinn at SITEC Environmental, Inc., dated April 19, 2007;
- Revised Project Site Plans by SITEC Environmental, Inc. titled "*Herring Brook Meadow*" 126-132 Chief Justice Cushing Highway, Scituate, Massachusetts (sheets 1-11 dated October 6, 2006, most recently revised April 17, 2007).
- Letter and attachments from Peter Rosen at SITEC Environmental, Inc. regarding Topography and Flooding Issues, dated March 29, 2007;
- Letter and attachments from Roderick Gaskell at SITEC Environmental, Inc. regarding ILSF & IVW Clarification, dated April 2, 2007;
- Letter and attachments from Roderick Gaskell at SITEC Environmental, Inc. regarding Agricultural Exemption Status, dated April 23, 2007;

Please note that we have included the original comments from our March 9, 2007, letter, with our follow-up comments in *italicized* font. The figures previously included, and referenced throughout our original comment letter are omitted here.

WETLANDS COMMENTS

The project as proposed will involve alteration to inland and coastal wetland resource areas. A discussion of each affected resource area follows.

1. Isolated Land Subject to Flooding

The project proposes alteration of 12,665 s.f. of ILSF, as regulated under the WPA Regulations (310 CMR 10.57). ILSF is locally significant to flood control and storm damage prevention, particularly with respect to adjacent properties. During our site visit, detained flood/storm waters were observed within the ILSF depression. This area is significantly lower in elevation than the rest of the site and directly abuts a neighboring property. The ILSF is also contained within the AE Flood Zone (described below). The applicant states that the "existing flood storage capacity with the ILSF will be maintained and exceeded

and the existing stormwater flows into the ILSF will be reduced...therefore there will be no lateral displacement.” The performance standards for alteration of ILSF are as follows:

A proposed project in Isolated Land Subject to Flooding shall not result in the following:

1. Flood damage due to filling which causes lateral displacement of water that would otherwise be confined within said area.
2. An adverse effect on public and private water supply or ground water supply, where said area is underlain by pervious material.
3. An adverse effect on the capacity of said area to prevent pollution of the ground water, where the area is underlain by pervious material which in turn is covered by a mat of organic peat and muck.
4. An impairment of its capacity to provide wildlife habitat where said area is vernal pool habitat, as determined by procedures contained in 310 CMR 10.60(c) Protection of Rare Wildlife Species.

The applicant has only partially addressed how the project will meet the performance standards for ILSF.

Additionally, in the response letter by Sitec Environmental, Inc., (dated March 29, 2007), and during the public hearing on April 30, 2007, the limit of the ILSF was represented as between elevations 7 to 8 feet, yet on the plans and in the ANRAD supporting documentation, the limit of flooding within the ILSF is represented at elevation 7 feet. The contour elevations shown on the site plans indicate that the spill area for the ILSF is larger than that of the 7 contour, possibly approaching elevation 8 as noted in the Sitec report, which encompasses an area that is considerably larger than shown on the site plans. Flooding to this extent is consistent with observations made by the abutters. The Commission should seek to have the ILSF replicated to include the total storage volume to the elevation of the “spill point.”

The discussion regarding impacts from filing of the ILSF is unclear. The applicant states that the area of proposed filling is not in any type of floodway. According to the FEMA FIRM map for the project site, this statement appears to be untrue.

The ILSF likely qualifies as an Isolated Vegetated Wetland (IVW) under the local wetlands bylaw, as well as under the Federal Clean Water Act (33 U.S.C. 1251, et seq.). The Commission should note that alteration of more than 5,000 s.f. of IVW will likely require additional permitting through other regulatory agencies, including, but not limited to, 401 Water Quality Certification (WQC) and Section 404 of the Federal Clean Water Act, and as a result, the applicant may also be subject to review under the Massachusetts Environmental Policy Act, M.G.L. c. 30 §§ 61 through 62H, inclusive (MEPA). It is also likely that the project will require review under the Massachusetts Office of Coastal Zone Management (CZM) Federal Consistency review process.

Proposed alterations to this wetland resource must be mitigated in accordance with the performance standards set forth under the Town of Scituate Wetlands Protection Rules and Regulations (SWR 10.12(a)). Should the Commission accept the replicated ILSF/IVW, the Commission may want to also consider requesting a restored or enhanced Buffer Strip around this area.

HW recommends that the Commission take following actions:

- Request additional details (calculations, plans, studies) from the applicant for how the ILSF performance standards will be met, and information regarding mitigation. It is recommended that the applicant utilize the Town's guidance document, Recommended Plants for Resource Areas, regarding planting in resource areas when preparing a revegetation plan for the replicated ILSF.
- Request details from the applicant addressing each of the IVW performance standards under section SWR 10.12(a)), and how they will be met, and mitigation strategies associated with the proposed filling of this resource area.
- Consider requesting additional mitigation measures to create or restore a naturally vegetated Buffer Strip around the isolated wetland, whether or not alteration to this area permitted.
- Request that the Commission is copied on all correspondence with other regulatory agencies, and provided with copies of all other permits obtained for this project.

The applicant has presented additional documentation regarding the soils data supporting stating that approximately 1,500 s.f. of Isolated Vegetated Wetland (IVW) would be altered as a result of the proposed project.

No additional information regarding the IVW performance standards was submitted by the applicant. In the ILSF & IVW Clarification letter (April 2, 2007), the applicant maintains that the NOI will not be subject to review under the local wetlands bylaw, as it has been filed as a Comprehensive Permit Application under M.G.L. Chapter 40B, Sections 20-23, and therefore, is not obligated to protect the IVW that is regulated under the local wetlands bylaw. HW understands that the applicant is currently before the Zoning Board of Appeals (ZBA), and is unaware whether the ZBA has waived any portion of the local wetlands bylaw. As such, HW advises that the Commission consider regulating all resource areas proposed for alteration under this proposed project unless and until the ZBA approves a waiver request under the local wetlands bylaw.

*The applicant also states that "the pocket of IVW that has been delineated and approved under the ORAD is dominated by invasive, nuisance plant species (primarily Common Reed [*Phragmites australis*] with some Purple Loosestrife [*Lythrum salicaria*]). This is a plant community to be replaced, not protected." While HW agrees that the existing plant community within the IVW is not a desirable vegetative community, the Commission may wish to request that an invasive species management plan be implemented for the replacement ILSF/IVW, if approved, as it is likely that this area would also support invasive, opportunistic species such as common reed and purple loosestrife. Our comments regarding the restoration of a natural buffer zone still stand.*

It should be noted that the Order of Resource Area Delineation (ORAD) issued by the Scituate Conservation Commission (November 16, 2004), which was issued under both the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 § 40) and under Section 30700 of the Town of Scituate Code of Bylaws (i.e., the local wetlands bylaw), does not specifically approve or disprove the boundary of the IVW.

2. Riverfront Area

The project site is located within the 200-foot Riverfront Area (310 CMR 10.58) to the First Herring Brook. This resource area is significant to the protection of public water supply, groundwater, flood control and storm damage. Approximately 4,280 s.f. of grading are proposed within the outer Riverfront Area.

In order to meet the performance standards for work within Riverfront Area, the applicant must first demonstrate that there are no other practicable and substantially equivalent economic alternatives for the project that would result in less impact to the Riverfront Area. The alternatives analysis submitted does not appear to explore alternative design layouts that would avoid all alterations to Riverfront Area, while still maintaining the substantial amount of open space proposed.

HW recommends that the Commission take following actions:

- Request that the applicant submit an expanded alternatives analysis demonstrating that there are no other practicable and substantially equivalent economic alternatives for the project that would result in avoidance or minimization of Riverfront Area alteration.
- Carefully consider HW's comments regarding the proposed stormwater management approach (below), should the Commission accept the proposed Riverfront Area alteration.
- Ensure that the proposed Conservation Easement includes language regarding the preservation of the land area in perpetuity, should the Commission accept the proposed Easement.
- Request the applicant to provide mitigation measures, such as restoring native vegetation within a portion of the Riverfront Area, to increase the capacity of the resource area to protect the interests under the WPA and the local bylaw.

The applicant has not provided any new information regarding an expanded alternatives analysis except to state that "Maintenance of the 'affordability' component of this project allows no further reduction in the number of units, which will be reviewed in the financial analysis component of the 40B process currently on going before the Scituate ZBA." As noted above, regardless of whether the ZBA has rendered a final decision on this 40B project, the applicant is still required to meet the performance standards for work within Riverfront Area under the Massachusetts Wetlands Protection Act, including exploring and presenting an alternative that avoids Riverfront Area alteration.

The applicant also states that they "propose to develop specific planting specifications for the entire sloped edge, including the 1.65% section of Riverfront Area, as part of the proposed agricultural field/meadow open space area maintenance plan." HW recommends that the Commission request that the applicant submit this proposed planting plan.

3. Land Subject to Coastal Storm Flowage

The property is located within the AE floodzone (LSCSF), as regulated by the Federal Emergency Management Agency (FEMA). The National Flood Insurance Program (NFIP) Flood Insurance Rate Map shows the site's AE flood Zone at elevation 11 (Figure 3). Land Subject to Coastal Storm Flowage is defined at 310 CMR 10.04 as "land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, which ever is greater."

Although there are no performance standards within the WPA Regulations for LSCSF, it is generally accepted that LSCSF is significant to the interests of storm damage prevention and flood control. The applicant proposes to place substantial amounts of fill within LSCSF (up to seven vertical feet of fill material). This amount of fill has the potential for altering storm surge flow patterns, increasing the potential for off-site flooding, and arguably altering existing drainage patterns at this site. Section 10.38 of the Town of Scituate Wetlands Rules and Regulations discusses the importance of velocity zones (VE-Zones) and AE-Zones for storm damage prevention and flood control. The general performance standard of this section states: “any activity shall not have an adverse effect by increasing the elevation or velocity of flood waters or by increasing flows due to a change in drainage of flowage characteristics on the subject site, adjacent properties...” The Commission may want to request that the applicant provide the Commission with data demonstrating how this project will meet this performance standard.

Partially addressed. The applicant has submitted additional information regarding the coastal flood zone, although it is unclear whether the flooding impacts that could occur have been addressed, as this document focuses primarily on V-Zone impacts, which have not been proposed. In other words, this document appears to imply that flooding damage would only occur within velocity zone, and it does not address the potential effects of this project on displaced still water flooding.

In addition, building within LSCSF should adhere to the State Building Code at 780 CMR 3107.

Addressed. The applicant has stated that the proposed buildings will meet all applicable MA Building Code requirements for construction within a FEMA mapped A-Zone.

In addition, HW reviewed the Draft *No Adverse Impact in the Coastal Zone* guidance by the Association of State Floodplain Managers (ASFM, November 2006). The guidance states that the following activities within floodplain areas will cause adverse impacts, which are worth consideration with respect to this project:

- a) Cumulative impacts – through a series of alterations or additional development in the coastal area, particularly when coastal wetlands are encroached upon.
- b) Extending services into coastal areas – collapse of new infrastructure (water, sewer, electric, and roadways) in a storm results in effects that cascade throughout the community. In addition, the extension of these services can be construed by the community as “stable,” even if they may not be in the long-term.
- c) Impacts of land use – to upstream properties and adjacent properties can occur, particularly from increased sediment to floodplains, wetlands and channels, which decrease their ability to store and convey floodwaters.

At a minimum ASFM recommends the following regulatory actions be taken in managing development in floodplain areas. HW recommends that the Commission consider these recommendations, as applicable.

- a) The bottom of the lowest horizontal structural member should be above the Base Flood Elevation (BFE; 10 ft.) and the structure should be built on piles or columns.
- b) Freeboard, an additional height requirement above BFE, should be required for new development.
- c) A qualified engineer or architect should certify the accuracy of elevated building foundations.
- d) Lower area enclosures on buildings below the BFE should be limited.

HW recommends that the Commission take following actions:

- Request that the applicant submit additional information (calculations, studies, plans) demonstrating that the proposed alterations within LSCSF will not have an adverse affect by increasing the elevation or velocity of flood waters, increasing or changing drainage flow characteristics, or increasing flooding on adjacent properties.
- Consider the following recommendations from the No Adverse Impact in the Coastal Zone guidance by the Association of State Floodplain Managers (ASFM, November 2006) regarding activities within the floodplain and regulatory actions for managing these areas, including:
 - Ensuring that the bottom of the lowest horizontal structural member is above the Base Flood Elevation (BFE; 10 ft.) or that the structures are built on piles or columns;
 - Requiring an additional height requirement above BFE (Freeboard);
 - Requiring certification by a qualified engineer or architect regarding the accuracy of elevated building foundations; and/or
 - Requiring that lower area enclosures on buildings below the BFE be limited.

Not addressed. The applicant maintains that "filling in a coastal flood zone does not displace floodwaters, so there is no increase in flooding in adjacent areas ... because the flood basin for coastal flooding is the ocean, which is an infinitely large basin that is not affected by small changes in shape or volume." HW's position is that the potential for flooding is perhaps a localized issue of allowing flood waters to flow unimpeded in and out of this area, such that there is no localized displacement of floodwaters or change in drainage characteristics that may potentially adversely affect the immediate abutters.

ADDITIONAL CONSIDERATIONS

Floodplain and Watershed Protection District

The majority of the project will be located within the Floodplain and Watershed Protection District. With regard to these fragile resource areas, the Town of Scituate Zoning Bylaw states that the planning board will ensure that:

"The project does not adversely affect the natural environment to the detriment of community character and public health and safety. In particular, the project shall be so designed as to preserve the integrity of drinking water, ground water supply generally, floodplain, salt marshes and any other sensitive environmental features."

The project proponent does not appear to have addressed the above standard in its Notice of Intent.

HW recommends that the Commission take following actions:

- Request that the applicant provide additional information that addresses the above zoning bylaw standard, or document that a waiver has been granted or is appropriate and the justification of said waiver.

Partially addressed. The applicant has stated that a waiver is not required because the proposed project is, "...so designed as to preserve the integrity of drinking water, groundwater supply generally, salt marshes and any other sensitive environmental features." Issues regarding stormwater management and flood storage remain, as stated in other comments of this letter. As this is a component of the Zoning Bylaw, HW understands that a decision to allow structures and fill within this Protection District will be at the discretion of the Planning Board.

Saltmarsh and Tideland Conservation District

The northern and northeastern portions of the project site are located within the Saltmarsh and Tideland Conservation District (as defined by elevation 10). The primary purpose of this district is to designate and protect saltmarsh and tideland natural resources. The Town of Scituate Zoning Bylaw states that in this district: "no structure shall be erected... nor may any area within said district be filled, drained, dredged or excavated except by or under the direction of any Federal, State, County or town agency." The standards for this rule state that permits will not be granted for projects that adversely affect the natural character of the area. Based on our review and understanding of the project and our observations of the existing site conditions, HW believes that this project will likely have adverse impacts to the land and water resources on the site, as well as adjacent land areas.

Partially addressed. The applicant has stated that the intent of this Conservation District is to protect saltmarsh and tideland natural resources, and that "much of the proposed work falls within the portion of the property already disturbed..." As this is a component of the Zoning Bylaw, HW understands that a decision to allow structures within this Conservation District will be at the discretion of the ZBA.

Priority and Estimated Habitat

According to the most recent version of the Natural Heritage Atlas (October 1, 2006), a portion of this site occurs within both Estimated Habitat of Rare Wildlife and Certified Vernal Pools and Priority Habitat of Rare Species (Figure 4). Although it appears that no work will occur within these designated habitat areas, it would be useful to have the limits of these areas depicted on all sheets of the plan set. The narrow strip of land to be transferred to the Town as proposed Public Open Space may occur within the limits of these designated habitat areas, which in turn may have long term land management implications for the Town.

HW recommends that the Commission take following actions:

- Request that the applicant consult with the Massachusetts Natural Heritage and Endangered Species Program (NHESP) to ensure that the proposed project will not have any adverse impact to the habitat of one or more State-listed rare species that may require additional review under the Massachusetts Endangered Species Act (M.G.L. Ch. 131A) or MESA.

The applicant has placed the limits of the NHESP designated Priority Habitat and Estimated Habitat on the site plans.

Wellhead Protection Area

The Commission should be aware that this project falls within a Wellhead Protection Area Zone II (Figure 5), which is important for protecting the recharge area around public water supply (PWS)

groundwater sources. This will affect the stormwater management design criteria and compliance with the MA Stormwater Policy (see below).

This comment is partially addressed (see below).

STORMWATER MANAGEMENT

The proposed project is required to meet the Stormwater Management Policy (MSWMP) under the Massachusetts *Wetlands Protection Act*. HW has applied the MSWMP and standard engineering practices in the review of the proposed drainage and stormwater management aspects of the proposed project. Based upon the documents received to date, HW offers the following comments:

1. The applicant is proposing to place seven (7) vertical feet of fill in a coastal flood zone (FEMA AE Zone, elevation 11 feet). It is difficult to determine the effect that this will have on neighboring properties by simply reviewing the submitted materials. We recommend that the Commission request the applicant to conduct a more detailed assessment of the potential impacts that this project will have on the abutting parcels.

The applicant has not addressed our comment. The applicant maintains that "filling in a coastal flood zone does not displace floodwaters, so there is no increase in flooding in adjacent areas ... because the flood basin for coastal flooding is the ocean, which is an infinitely large basin that is not affected by small changes in shape or volume." HW's position, also stated under comment 3 under the Wetlands Section, is that the potential for flooding is perhaps a localized issue of allowing flood waters to flow unimpeded in and out of this area, such that there is no localized displacement of floodwaters or change in drainage characteristics that may potentially adversely affect the immediate abutters.

2. HW has not received the following information that is needed to complete the stormwater management review of the proposed project:

- a) Water Quality Volume calculations per the MSWMP.

The applicant has partially addressed our comment. The total required water quality volume for the site was calculated; however, it is not clear that the required volume is being treated to the extent required. Refer to comment 4 for additional recommendations regarding the proposed CDS units.

- b) Pipe calculations using the Rational Method, including a tailwater analysis where applicable.
The applicant has adequately addressed our comment.

- c) Calculations for the proposed riprap aprons, showing that they are adequately sized to dissipate erosive velocities. Aprons should be drawn to scale on plans.

The applicant has partially addressed our comment. We recommend that the applicant show the riprap aprons on the grading plan and extend the limit of work, and thus the location of the erosion control/silt fencing, to encompass the aprons.

- d) The mean high tide and the mean high high tide elevations should be shown on the plans. The drainage calculations may need to be performed using tailwater conditions. The

proposed outfalls are not much higher than the adjacent wetland and ILSF elevations, which may cause submerged conditions of outlet pipes.

The applicant has adequately addressed our comment.

- e) HW recommends that the applicant provide construction details for the proposed retaining walls including detailed information on the footings and weepholes or other drainage features. All walls shown on the plans should be labeled with top and bottom of wall elevations.

We agree with the applicant that the Commission should require construction details for the retaining walls as a condition of any decision made.

3. With regard to the submitted calculations, we offer the following comments:

Based on the revised calculations, the peak discharge during the 2-year storm event for Proposed Subcatchment 1 (0.74 cfs) exceeds that from existing conditions (0.47 cfs). Based on MASWMP Standard 2, the peak discharge from the proposed development must be reduced to less than or equal to existing conditions for this storm event. We recommend that the applicant utilize a vegetative BMP in this area to reduce the peak discharge.

- a) It appears that the delineation of the existing and proposed drainage areas do not include offsite areas that will contribute runoff to the drainage areas onsite. Offsite area that contributes to the drainage areas should be included in the hydrologic calculations for both pre and post development conditions. We recommend that the applicant include these offsite areas for affected watersheds.

The applicant has not addressed our comment. Offsite area to the southeast of the property should be included in Proposed Subcatchment 1 that flows to the ILSF.

- b) When wetlands are included as part of a watershed, such as in Existing Subcatchment 1 and Proposed Subcatchment 1, they should be treated as impervious with a CN value of 98.

The applicant has adequately addressed our comment.

- c) The applicant has assumed the sheet flow component of the time of concentration for proposed conditions to be 100 feet for each subcatchment. We recommend that the applicant revise the calculations to include a maximum 50 feet of sheet flow, as referenced in the "Hydrology Handbook for Conservation Commissioners" (DEP, 2002).

The applicant has adequately addressed our comment.

- d) The applicant uses "Woods-fair," "Pasture-fair," and "Grass-fair" for the Curve Number in the existing and proposed runoff calculations. However, "Woods-good," "Pasture-good," and "Grass-good" should be used, as referenced in the "Hydrology Handbook for Conservation Commissioners" (DEP, 2002).

The applicant has adequately addressed our comment.

- e) The TSS removal calculations include 10% for street sweeping. The Commission should be aware that this is a discretionary item in the MSWMP that is subject to the Commission's approval. The Operation and Maintenance Plan specifies sweeping two times per year and does not specify the type of equipment. Research has demonstrated that sweeping must

occur much more frequently and with a vacuum assisted sweeper to achieve an annual removal of 10% TSS. We recommend that the Commission request additional information from the Applicant on the type of sweeper to be employed and to increase the sweeping frequency to monthly in order to get credit for a 10% TSS removal.

The applicant has partially addressed our comment. The O&M Plan was revised to specify that a vacuum-assisted sweeper be used at the site. However, the schedule was updated to include sweeping on only a quarterly basis versus the recommended monthly.

- f) Runoff coefficients for the Rational Method range from 0.6 to 0.76 for the submitted CDS treatment unit calculations. Runoff coefficients for parking areas and rooftops typically range from 0.7 to 0.95. We recommend that the applicant provide additional information on how the coefficients were determined.

The applicant has adequately addressed our comment.

4. The use of CDS Stormwater Treatment Units or other similar proprietary products is highly discouraged, other than for pre-treatment. The total suspended solids (TSS) removal rate for the CDS units are stated as greater than 80% TSS and are being used in this application to meet the 80% TSS removal requirement under the MSWMP (Standard No. 4). However, the submitted calculations were based on target particle sizes of 150 – 300 microns. A smaller target particle size of between 20 and 40 microns is more appropriate to ensure a capture of 80% TSS. Thus, the stated removal rate is likely much higher than would be the case at the site. In addition, the MA STEP Program has not approved the CDS units and lists them as having “insufficient credible data to evaluate claims.” The results from the two listed studies rate the CDS units at 50% and 74% TSS removal. We recommend that the applicant consider revising the plan to use a best management practice (BMP) approach that meets the 80% TSS requirement of the MSWMP.

The applicant has partially addressed our comment. The high-efficiency CDS units have received interim certification by the TARP program based on the New Jersey Corporation for Advanced Technology (NJCAT) verification addendum report, dated December 2004. As stated in the conditional interim certification issued on January 12, 2005, and updated on January 12, 2007, “the High Efficiency Continuous Deflective Separator Unit...is capable of achieving a minimum TSS removal efficiency of 50% from stormwater runoff, and shall be permitted accordingly.” One of the conditions to the certification is that the CDS unit should be the first component, if used as part of a treatment train. In addition, the Malden Telecom City Project in which MA DEP has approved the use of the CDS unit was for a specific retrofit situation, not a new development where other options exist.

The applicant is proposing to use the CDS unit alone and following deep sump catch basins, and is using a TSS Removal Rate of 80% for each unit. We recommend that the applicant only use a high efficiency CDS unit as pretreatment for another BMP in order to meet the required 80% TSS removal.

5. We recommend the applicant submit water quality volume calculations to ensure the stormwater practices are sized appropriately. Because the site is within a Zone II drinking water supply area, the applicant should use the “critical area” criteria for water quality volume treatment (1 inch of runoff times the total impervious area) to meet Standard 6 of the MSWMP. In addition, emergency containment or shutdown must be incorporated with any BMP design in a Zone II drinking water supply area.

The applicant has partially addressed our comment. Based on the provided information and the interim certification, it appears that the CDS units do not provide the required water quality volume treatment (see Comments 2a and 4). We recommend that the applicant utilize the CDS units as pretreatment for vegetative BMPs to ensure that the water quality volume (5,485 cf) is properly treated on site. Regarding emergency containment in a Zone II area, gate valves have been added to the Stormwater Management Plan; however, a typical detail should also be provided.

6. The site is located within the watershed of a section of the Herring River listed as a Category 5 Water under the "Massachusetts Year 2004 Integrated List of Waters"(also known as the 303(d) list), requiring a Total Maximum Daily Load (TMDL) for pathogens. The Commission may wish to request that the applicant implement stormwater BMPs that are effective in pathogen removal, such as vegetated wetlands, bioretention practices, sand filters, or infiltration practices.

The applicant has not adequately addressed our comment about pathogen removal. Our original comment above is still applicable.

7. Standard 3 of the MSWMP requires that annual groundwater recharge for the post-development site approximates annual recharge from existing conditions. There are no exemptions of Standard 3 for waters subject to unimpeded tidal flushing. We recommend that the applicant provide calculations for the amount of recharge required on the site, the amount of recharge provided, and the locations of recharge areas. Vegetative practices such as bioretention, grassed swales, or constructed wetlands, and infiltration practices dispersed throughout suitable portions of the site can help provide the required recharge, as well as mimic existing hydrologic patterns and increase pollutant removal. "Clean runoff" from rooftops can be infiltrated directly, while parking lot runoff should be routed separately to a treatment BMP.

The applicant has not adequately addressed our comment. Recharge cannot be provided by simply discharging the site's runoff into a "relatively flat" meadow. The required groundwater recharge must be calculated based on the soil at the site and must be provided by an appropriate BMP capable of storing and infiltrating the required quantity. We recommend that the applicant utilize vegetative practices to meet Standard 3 of the Policy.

8. We recommend the applicant provide a detailed Erosion and Sediment Control (ESC) plan that clearly shows construction sequencing and the sediment and erosion control methods proposed during different phases of construction. The plan should include methods to protect slopes during construction, silt fence and haybales around the limit of work, locations of temporary sedimentation basins and swales, dewatering basins, material storage areas, locations of siltsacks (or equivalent) instead of haybales at all existing and proposed catch basins that may intercept construction runoff, methods to control dust, and stone construction entrances. For site construction in such close proximity to the wetlands, aggressive erosion and sediment controls are essential to prevent impacts to the wetlands.

The applicant has not adequately addressed our comment. We recommend that the Commission require the applicant to provide an ESC plan as per our original comment above.

9. The outfalls discharge to a vegetated area for overland flow to the salt marsh. We recommend that the applicant demonstrate that this discharge can be safely conveyed without erosion or sedimentation in that area in order to meet Standard 1 of the MSWMP. The grading at the outfalls and riprap aprons should be shown to ensure that the inverts match with the surrounding grades. In addition, the applicant should demonstrate that the runoff from the southern portion of Proposed Subwatershed 1, which flows through adjacent property before reaching the relocated ILSF, can be conveyed without erosion, sedimentation, or other impacts to the offsite property or the ILSF.

The applicant has adequately addressed our comment.

10. We recommend that the applicant provide buoyancy calculations for all tanks, CDS stormwater units and any structure that extends below the seasonally high groundwater (11 feet). Tie-downs should be provided where necessary to protect water quality during coastal flooding.

The applicant has partially addressed our comment. Buoyancy calculations were provided for the CDS stormwater units. We recommend that these calculations also be provided for the septic system tanks.

11. We recommend that the applicant show the surface area and volume of the proposed ILSF replication on the site plans to demonstrate that the relocated ILSF will provide the same or greater storage volume for floodwaters.

The applicant has adequately addressed our comment. However, see comment 1 under the wetlands section of this letter for issues regarding ILSF delineation.

12. The Landscape Plan includes nonnative tree and shrub species. We recommend that the applicant incorporate native species in this sensitive Floodplain and Watershed Protection Overlay District.

While the ornamental landscaping is not intended to provide wildlife habitat, care should be taken that invasive species are not introduced on the site since it is so close to the Herring Brook. We agree with the applicant that the management plan for the open space area should include the planting of native species.

13. The following comments refer to the Operation and Maintenance (O&M) Plan:

- a) The O&M plan should be a comprehensive document that is easily understood by the entity that must assume maintenance responsibilities, and will be required to legally-implement the plan.

The applicant has not addressed our comment. We recommend that the applicant provide a legally binding maintenance agreement for the plan.

- b) The applicant should consider the fiscal resources required to repair or replace a system and include a budget for necessary costs should one or more systems fail in the future.

The applicant has partially addressed our comment by providing the cost for each CDS unit. However, we recommend that the applicant incorporate a more detailed table of expected annual costs related to the system, including maintenance costs. These costs should be incorporated into the O&M Plan.

- c) The applicant must provide an effective snow storage and management plan in order to meet the "no untreated runoff discharging to wetlands standard" of the MSWMP. Snow storage locations should be shown on the drawings, and the O&M plan should fully describe the necessary requirements for snow removal and treatment.

The applicant has partially addressed our comment. A Snow Management Plan has been provided; however, snow storage locations were not shown. We recommend that the applicant show these locations on the plans so that there is no confusion for the future residential complex association.

- d) The applicant is proposing to utilize deep-sump catch basins as part of their stormwater management system. The applicant is advised that deep-sump catch basins have been shown to be ideal breeding grounds for mosquito larvae. The operation and maintenance plan and procedures should specify the specific measures that will be employed to minimize or eliminate the threat of transmission of mosquito-borne diseases.

The applicant has adequately addressed our comment.

14. A Stormwater Pollution Prevention Plan (SWPPP) is required for this project under the Environmental Protection Agency's Phase II National Pollutant Discharge Elimination System (NPDES) regulations. We recommend that the applicant provide copies of the SWPPP and the NPDES permit to the Commission.

We agree with the applicant that the Commission should require that a copy of the EPA NOI and SWPPP be submitted for the file as a condition to any decision made by the Commission.

HW is pleased to provide the Scituate Conservation Commission with these comments and recommendations for your review and consideration. Should you have any questions or require further clarification with respect to our observations and opinions, please do not hesitate to contact HW at (508) 833-6600.

Sincerely,

HORSLEY WITTEN GROUP, INC.

Amy M. Ball
Project Manager – Wetland Scientist

Michelle L. West, P.E.
Staff Engineer

Attachments (Figures)

cc: DEP, Southeast Regional Office
SITEC Environmental, Inc.