



August 16, 2021

Email (kshemeth@chilmarkma.gov)

Ms. Kara Shemeth, Conservation Agent
Chilmark Conservation Commission
401 Middle Road
Chilmark, MA 02535-0119

Re: Chilmark Firehouse/EMS Project Peer Review
Menemsha Crossroad and Middle Road
Chilmark, Massachusetts

[LEC File #: TOCh\19-183.01]

Dear Ms. Shemeth and Members of the Commission:

In response to your request, LEC Environmental Consultants, Inc., (LEC) has prepared the following peer review of the Notice of Intent (NOI) and associated site plans for the proposed Chilmark Firehouse/EMS Project. This review is being conducted under the Massachusetts Wetlands Protection Act (M.G.L. c. 31, s. 40, the Act) and its implementing Regulations at 310 CMR 10.00, and the Town of Chilmark Wetlands Protection Bylaw (the Bylaw) and its implementing Regulations (the Bylaw Regulations).

As part of the review, LEC conducted a site evaluation and meeting with the Agent/Conservation Commissioners on July 27, 2021. The review included the following documents and plans:

- NOI and Stormwater Report, dated June 25, 2021, prepared by Vineyard Land Surveying & Engineering, Inc. (VLS);
• Existing Conditions Plan, prepared by VLS, dated June 24, 2021;
• Proposed Firehouse Site Plan, prepared by VLS, dated, June 25, 2021, revised July 13, 2021;
• Proposed EMS Site Plan, prepared by VLS, dated, June 25, 2021, revised July 13, 2021; and
• Concept Plan Review Report, prepared by LEC, dated July 9, 2019.

Project Description

The proposed project involves construction of a new Chilmark firehouse in the location of the current firehouse adjacent to Town Hall, and construction of an EMS facility on property to the north of Town Hall on Middle Road. The firehouse project involves construction of a significantly larger building than the existing structure, with the building extending to the edge of a Bordering Vegetated Wetland (BVW) system. In addition, the construction activities along the edge of the wetland will involve 942 square feet of temporary BVW disturbance.

Table with 5 columns: Location, Address, City, State, ZIP, and Phone Number. Rows include Plymouth, MA; Wakefield, MA; Worcester, MA; Rindge, NH; and East Providence, RI.



The EMS facility is confined to the BVW Buffer Zone, with no direct BVW impacts proposed. The project also involves an elevated boardwalk through the BVW, connecting the EMS facility to the firehouse and Town Hall property. Construction of the boardwalk will involve approximately 620 square feet of permanent BVW disturbance associated with clearing vegetation in the boardwalk footprint, according to the plans.

The project also involves a new stormwater management system for both projects, including a new system for the firehouse/Town Hall property which will replace an antiquated system that doesn't adequately protect the BVW, as further discussed below.

### **Wetland Description**

The BVW system associated with the project displays varied characteristics which are relevant to the project disturbances and the Commission's project review. The BVW starts at the stonewall along the west side of Middle Road, just north of the entrance to the Town Hall. A culvert discharges stormwater from Middle Road into a shallow linear ditch within the BVW extending west and then turning south/southwest toward a culvert extending beneath Menemsha Crossroad. The drainage ditch is protected as an intermittent stream containing Bank, a Wetland Resource Area under the *Act* and *Bylaw*.

The BVW associated with the stream is significantly disturbed in the vegetated area located between the two projects and on either side of the proposed boardwalk. The BVW immediately adjacent to the Town Hall parking area and aforementioned intermittent stream is a meadow that is mowed on a regular basis, with scattered red maple (*Acer rubrum*) trees providing a sparse canopy. The frequent mowing of the BVW and lack of shrub layer limits its function and value, especially to wildlife. Sweet pepperbush (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*) and American holly (*Ilex opaca*) saplings are present along the stone wall extending perpendicular to Middle Road. North of the stone wall, the landscape is heavily disturbed with mounds of soil that do not contain a natural soil profile and thus appear to be historic fill material. Portions of this area do not display clear evidence of wetland hydrology in the soil profile of the fill and wetland vegetation is sparse. As a result, the wetland delineation may be conservative. In addition, invasive species dominate large portions of the understory in this area, including multiflora rose (*Rosa multiflora*) and Asiatic bittersweet (*Celastrus orbiculatus*). Bittersweet vines have established within the red maples in this area and will eventually cause serious damage to these trees if left unmanaged.

As the stream turns south/southwest from the mowed meadow, the BVW is of higher quality, containing a well-established and relatively undisturbed wetland plant community, including a well-established canopy of red maple, and a moderately dense shrub layer consisting of arrowwood, sweet pepperbush, and winterberry (*Ilex verticillata*). Groundcover in the undisturbed wetland consists of skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), and cinnamon fern (*Osmunda cinnamomea*). Pockets of surface water are occasionally present in this portion of the wetland due to shallow groundwater. Highbush blackberry (*Rubus alleghanensis*), and multiflora rose are found along the edge of the wetland which generally coincides with the limits of existing/historic development in this area.

Hydrology in the BVW is driven primarily by shallow groundwater. Secondary contributions to wetland hydrology appear to include stormwater runoff from the Town Hall property and from Middle Road via the above-referenced intermittent stream, along with stormwater from upgradient off-site areas within the local watershed.



The intermittent stream continues off-site through the culvert beneath Menemsha Crossroad, flowing southwesterly into an expansive wetland system associated with Mill Brook. Mill Brook is a perennial stream and a coldwater fishery located roughly 1,200 feet from the property. Coldwater fisheries are particularly sensitive resources which can be affected by changes in the upgradient watershed.

## **Findings and Context**

The primary issue with the project is the temporary BVW disturbance associated with the firehouse building and new parking area, and the close proximity of these proposed features to the edge of the BVW. It is our understanding that the Town has determined that there are no other viable sites for this project, and therefore a discussion of off-site alternatives is not contemplated at this time. In light of the site constraints, on-site alternatives to the current design that would avoid, minimize, and/or mitigate for the wetland disturbances should be the focus of the Applicant's team and the Commission's review of the project.

It is important to put this project and the proposed wetland disturbances into the context of existing conditions, which include an existing/historic limit of work extending up to the edge of the current BVW boundary. It is likely that original construction of the Town Hall/firehouse involved filling a portion of this wetland prior to wetland regulations. In addition, the existing stormwater management system on the property is antiquated and does not adequately protect the BVW. While the existing catch basins and small retention area provide some functions, stormwater sheet flows directly into the BVW during significant rain events, carrying sediment from the gravel parking area into the stream and BVW. The lack of a substantive vegetated Buffer Zone to the BVW exacerbates this condition.

On sites which contain development up to the edge of a BVW and lack a vegetated Buffer Zone, the general rule of thumb is that proposed redevelopment projects should, at a minimum, not expand the overall footprint of development on the property and should include mitigation measures and/or restoration measures that result in an overall improvement to protection of the resource areas. This design standard is a reasonable objective for this project and this site, in our opinion.

As noted above, the project limit of work/disturbance extends approximately five feet into the BVW, as currently proposed. This encroachment into the BVW for construction extends along the entire BVW boundary from Menemsha Crossroad to Middle Road. In addition, the proposed firehouse building and the proposed parking area extend up to edge of the BVW boundary with the current proposal.

## **Recommendations**

Based on the objective of maintaining the existing limit of work, we recommend that the Applicant's team evaluate all potential opportunities to modify the project layout in these areas to avoid any BVW disturbance and to maximize building and parking area setbacks. While it is clear that site constraints and architectural considerations are a major issue driving the layout and configuration of the building, minor reconfigurations to the design that avoids the temporary BVW disturbance and increases setbacks would be a significant improvement to protecting the integrity of the wetlands in the context of existing conditions.

It is important to emphasize that the new stormwater management system for the firehouse property will be a significant improvement over existing conditions. Under existing conditions, stormwater flows from portions of the gravel parking area directly into the wetland with essentially no treatment. Resolving this condition with a new system to collect and treat stormwater is a notable improvement to protecting the resource areas



on-site. Presumably VLS has incorporated all potential treatment measures to maximize the improvements to stormwater management; however, engineering review is not our expertise. The Commission may request that VLS discuss potential additional treatment measures that would further improve stormwater management in the context of cost considerations, including thermal energy mitigation to protect the downstream coldwater fishery.

In addition to our recommendation regarding the BVW disturbance, the Applicant may consider additional mitigation that will help the project meet the objective of an overall improvement to the resource areas. This may be achieved through preparing and implementing an invasive species control and revegetation plan for the BVW and vegetated Buffer Zone, and/or through a wetland restoration plan for the disturbed wetland located between the two projects. Invasive species control would target the bittersweet and multiflora rose in the BVW and Buffer Zone between the two sites, and include monitoring landscaped/restored areas along the edge of the project for a minimum of two years (a five-year program would improve the likelihood of success). The area between the two projects could be restored by removing the piles of fill, establishing a natural soil profile with organic rich topsoil, seeding the area with a native wetland/conservation seed mix, and installing shrub plantings. The existing red maples would remain to the extent practical. Restoring the wetland and Buffer Zone in this area will increase the functions and values of this portion of the wetland and should improve aesthetics in this highly visible area as well.

## Conclusion

LEC has reviewed the proposed firehouse and EMS projects for the Chilmark Conservation Commission under the *Act*, the *Act Regulations*, and the *Bylaw* and *Bylaw Regulations*. Based on our review, recommendations have been provided for the Commission and the Applicant's team to consider including:

- A review of alternative configurations that would avoid and minimize wetland disturbances with a minimum objective of maintaining the existing limit of work on the Town Hall/firehouse property;
- Develop an Invasive Species Control Plan, with a focus on the vegetated area between the two projects;
- Develop a restoration plan for the area between the two projects which will ensure the overall project results in an overall improvement to the resource areas.

It is our understanding that the primary recommendation, which involves potential reconfiguration of the building and parking area to reduce or eliminate wetland disturbance, is in the process of being addressed by the Applicant's team and that they may have revised plans for the Commission as soon as this coming Tuesday, August 17, 2021. LEC will review these plans as soon as they become available and will provide comments to the Commission, as necessary.

Sincerely,

**LEC Environmental Consultants, Inc.**

Mark Manganello

Assistant Director of Ecological Services