



165 East Grove Street
Middleborough, MA 02346
Tel # 508-946-9231 Fax # 508-947-8873

www.outback-eng.com

Civil Engineers ✦ Land Surveyors ✦ Wetland Scientists ✦ Soils Laboratory

December 18, 2017

Medway Conservation Commission
c/o Ms. Bridget Graziano, Agent
155 Village Street
Medway, Massachusetts 02053

Subject: Alternative Analysis Regarding Minimization of Wetland Impact,
Notice of Intent for Timber Crest Estates 40B,
DEP File #CE 216-0914

Dear Bridget and Commission Members,

On behalf of Timber Crest LLC, we are providing this letter to document the evolution of the proposed project and how measures have been taken to reduce and minimize wetland impacts. As proposed in the Notice of Intent filing, the project plans were designed as a result of the Comprehensive Permit issued under MGL Ch. 40B, §§20-23, by the Medway Zoning Board on May 31, 2017. During the hearing process with the ZBA, a number of comments from town departments and staff, town consultants, and abutters to the project were deliberated by the Board and incorporated into the Comp. Permit as deemed necessary. Many of these comments centered on providing safe and adequate access and town services (such as water and sewer) to the future homes. The ZBA hearing process also involved a workshop with the Medway Conservation Commission agent and the ZBA's consultant, Tetra Tech. What follows is a summary of the plans that evolved during the ZBA permitting and hearing process, as well as the latest revisions suggested by the Conservation Commission at the last NOI hearing, to document measures taken by the applicant and development team to reduce and minimize impacts to the wetland resources and buffer zones.

As shown in the attached table and on the 4 attached Alternative Plans (all dated December 15, 2017), overall impacts to bordering vegetated wetlands (BVW) have been reduced as now proposed on the plans in the NOI submittal. The Alternatives are summarized below.

Alternative Plan 1: this plan represents the initial plans filed with the ZBA in March 2016 showing 72 house lots on the west side and 116 duplex units on east side for a total of 188 homes, as modified to include water and sewer utility lines crossing wetlands to connect the east side of the project with the west side. These utility connections are shown as Wet. Crossing #4 and #5, and were determined necessary by the ZBA because the consultant to the Town's Department of Public Services (refer to Comprehensive Permit conditions regarding Water Supply/Pressure that reference the Kleinfelder report) determined this east-west water main

connection was needed to provide sufficient water pressure and capacity for domestic use and firefighting purposes.

In addition to these 2 wetland crossings for the water main, this alternative included 5 other wetland crossings (7 total) to provide a safe network of roads that eliminate dead ends that would otherwise be considered too long by the town's subdivision regulations (600' max.) and Fire Chief. For instance, an emergency access road connecting the cul de sac of Road E to Ohlson Circle was required to be paved to a width of 20' based on input from the Fire Chief.

This alternative otherwise reduced wetland impacts as follows:

- Eliminated 2 wetland crossings (approx. 600 s.f. of BVW alteration) for a common driveway to serve 4 lots on the south side of Road E that were included in earlier plans submitted to MassHousing.
- Used 40' roadway layouts and narrower pavement widths, where waivers were requested from the town-required 50' road layouts.

Alternative 2: This alternative represents the last version of plans (last revised January 31, 2017) submitted to the ZBA and was used in their deliberations to issue the Comprehensive Permit in May 2017. During the hearing process, roadway and utility changes were made to Alternative 1 to further reduce wetland alteration while otherwise complying with town requirements for emergency vehicle access and water/sewer requirements. The resulting Alternative 2 reduced wetland impacts as follows:

- Applicant acquired Monego parcel at 165 Holliston Street that allowed road F to end in a cul de sac, rather than going all the way through to connect to Fern Path, and thereby eliminated more extensive wetland alteration (Wet. Crossings #7 and #8 no longer required).
- Per above, water and sewer mains through Wet. Crossings #7 and #8 were eliminated and replaced with utility lines to connect the east side to the west side via Wet. Crossings #4 and #5 per Kleinfelder's letter report (over 10,190 s.f. BVW alteration was eliminated).
- Paved roads were required to be 26' plus curbs for emergency vehicle turning movements and general safety as determined by the ZBA and Fire Chief, along with the applicant's Traffic consultant (Green International) and the ZBA's consultant (Tetra Tech); also 1 sidewalk with no grass strip and a 40' road layout were proposed to further reduce the width of the roadways. Collectively, these techniques reduce BVW alteration by approximately 3,000 s.f. from what might otherwise have been required if roads were designed in full compliance with Town's subdivision regulations (i.e., wider pavement, 2 sidewalks in some cases, and a grass strip within a 50' road layout).
- Relocated Road I to comply with Wetland Protection Act regulations related to work within wetlands and vernal pool habitat near Certified Vernal Pools #7696 and #7840.
- based on workshop with MCC agent in 2016, the applicant agreed with a request to eliminate 2 lots near vernal pools (see lots with "X" near Certified Vernal Pool #1540 and Potential Vernal Pool #7) to reduce impacts within the 100' buffer zone.

Alternative 3: This represents the initial plan filed with the NOI dated August 25, 2017, along with a few adjustments to wetland alteration calculations as requested by MCC so that comparisons between all the alternatives take into account the same resource areas and work limits.

- As required in Comp. Permit, a total of 7 lots were eliminated from Alternative 2, reducing work and impervious surfaces in the buffer zone.

- The applicant acquired a portion of 11 Ohlson Circle (Simcox property) which allowed the redesign of Road E that eliminated Wet. Crossing #6 and 2,246 s.f. of BVW alteration.

Alternative 4: This represents the latest, revised plan dated December 15, 2017 for the NOI based on MCC's and Eco-Tec's comments from the last hearing on October 26, 2017. This plan is similar to Alternative 3, except wetland alteration has been further reduced as follows:

- Road I was redesigned with a narrower, 15'-wide paved, emergency access road with retaining walls (no sidewalk) across Wetland Crossing #2 instead of the prior 26' paved road with sidewalk. This 15' wide emergency access road is the minimum width allowed by Fire Chief Lynch (refer to his December 14, 2017 letter).
- The emergency access road connecting Road E cul de sac to Ohlson Circle was similarly narrowed to 15' as allowed by Fire Chief Lynch (previously 20' was required), which further reduces impacts to the intermittent stream at Wetland Crossing #1.
- Applicant is now proposing to use horizontal directional drilling (HDD) techniques to install water and sewer lines between the East and West sides of the development through Wetland Crossings #4 and #5, to eliminate the majority of BVW alteration. With this technique, trenches are opened up within the upland on both sides of the wetlands, and the pipes are drilled into place in the subsurface without disturbing the wetland vegetation.
- With the above minimization techniques, BVW alteration has been further reduced by 5,316 s.f., LUW reduced by 96 s.f., and intermittent stream bank alteration reduced by 14 l.f. for the project.

In summary, BVW alteration for the project has been reduced by over 10,800 s.f. since the start of the permitting with the Medway Zoning Board in March 2016 (Alternative #1), with the current plans (Alternative #4) now showing 7,224 s.f. of BVW alteration. Although there is a small increase in alteration to Bank and Land Under Water associated with crossing 2 intermittent streams during this timeframe, measures have been taken to reduce these impacts by following the Massachusetts Stream Crossing Guidelines and using narrower roadway widths.

Should you have any comments or need additional information, please feel free to call me.

Sincerely,

James A. Pavlik

James A. Pavlik, P.E.
Principal