

MEMORANDUM

DATE: April 29, 2020
TO: Newbury Zoning Board of Appeals
FROM: Ann M. Marton, Director of Ecological Services
RE: Comprehensive Permit Application and Site Plan Peer Review
 Village at Cricket Lane, Newbury, Massachusetts
LEC File#: ToNEW\17-300.02

LEC received and has reviewed the following materials for compliance with the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40, the *Act*) and the implementing regulations at 310 CMR 10.00 (the *Act Regulations*), the DEP Stormwater Management Policy relative to protection of Wetland Resource Areas, and other Best Management Practices for design and construction:

- The Village at Cricket Lane 55 Rear Pearson Drive, Newbury, MA Comprehensive Permit Application (24 Units of Home Ownership) dated February 2020, with internal cover letter dated February 12, 2020;
- 40B Comprehensive Permit The Villages at Cricket Lane, Byfield, MA Plan Set (Sheets 1-18) prepared by Ranger Engineering Group, Inc., dated January 22, 2020; and
- Open Space Plan The Village at Cricket Lane Byfield (Newbury), MA 01922 (Assessor's Map R-20 Lot 75) prepared by Ranger Engineering Group, Inc., dated January 22, 2020.

LEC provided comments in two prior Peer Review Memorandums and a Working Session Recap & Summary for Byfield Estates which are listed below and incorporated into this review as Attachments A-C.

- Site Plan Review, Byfield Estate Comprehensive Permit Application, Newbury, Massachusetts dated February 8, 2018 (Attachment A);
- Working Session Recap and Summary Byfield Estate Comprehensive Permit Application, Newbury, Massachusetts dated February 16, 2018 Attachment B); and
- Initial Peer Review of Revised Site Plans/Written Materials, Byfield Estate Comprehensive Permit Application, Newbury, Massachusetts dated March 15, 2018 (Attachment C).

The following restates or clarifies comments provided in Attachment C and/or provides additional comments beyond those contained in Attachments A-C. Please note that a number of our below

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comments refer back to Attachments A-C or other previously reviewed or submitted documents, since based on our peer review, it *appears* that the Village at Cricket Lane essentially picked up the proposed project where Byfield Estates was left off.

1. The footprint and amount of historic wetland filling referenced in Mary Rimmer's March 7, 2018 Response Letter and attachments (Attachment D) do not appear to correlate to the Site Plans. Sheet 3 of the Site Plans graphically depicts a gray shaded area encompassing 1,565 square feet (SF) of historic filling between flags D21 and E19.1. This amount of filling is based on the historic topo from the original subdivision plan.

The 1980 Aerial Image attached to Ms. Rimmer's Response Letter depicts historic wetland filling between Flags E15 and E19 that is not shown on the Ranger plan.

Please add to Plan Sheet 3 the filling between flags E15 and E19 (970 SF estimated by Ms. Rimmer) and revise the total historic wetland fill to 2,535± SF (1,565 + 970 = 2,535).

Please add this corrected historic wetland fill on all other plan sheets (e.g. Sheets 5, 6, 7, 8, 9, 15, and 17). This also will affect the total amount of required Wetland Replication/Restoration.

The Index of Drawings on the 24x36 paper Plan Set Cover Page does not correspond to several of the plan sheet numbers and titles in the 24x36 paper plan set and do not correspond to the electronic plan set. For example, the Index of Drawings lists plan Sheet 15 as Wetland Details, but the 24x36 paper plan sheet 15 in the set of plans is labeled Utilities.

2. During the February 15, 2018 Working Session for Byfield Estates, we discussed relocating the Wetland Replacement Area north of the wetland system in the vicinity of wetland flags E8 through E12. Instead, the plans depict a 3,300 SF Wetland Replacement Area south of the E Series Wetland, directly behind the dwelling at 55 Pearson Drive within 20± feet of the driveway and 25± feet of the dwelling.

Based on the history of filling on this site, and the presence of a retaining wall in the wetland (presumably to create the backyard), this does not appear to be an appropriate location for Wetland Replacement. The shape of the Replacement Area also does not appear to correlate to any existing grades or the shape of the adjacent wetland system.

Please explain your rationale for this new location and consider more appropriate alternative locations including the vicinity of wetland flags E8 through E12.

No grading, planting or other Wetland Replacement details has been provided on the Grading and Drainage Plan as referenced in Ms. Rimmer's Response #13. Nor has such detail been provided on the Wetland Details (Sheet 15). Please provide such details.

3. Item #7 of Ms. Rimmer's March 7, 2018 Response Letter for Byfield Estates discusses changes to Basin P3-2 and states that "This change will create a minimum 10± feet setback from the toe of the grading to the wetland edge making it easier to construct..."

The actual limit-of-work/erosion control line for Basin P3-2 extends very close (varies from 3-8 feet) to the BVW between flags C7 to C9; flags C11 to C13; and C18 to C22. LEC recommends increasing the setback between this Basin and the BVW. Otherwise, it does not seem feasible to construct this basin that close to the BVW without impairing or otherwise destroying portions of the BVW.

Based on the current Basin P3-2 limit of work, the clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of the adjacent BVW by changing the soil composition, topography, hydrology, temperature, and the amount of light received (see 2005 Preamble to the Act Regulations). In accordance with 310 CMR 10.53 (1) the Issuing Authority shall impose conditions to protect the interests of the Act...and may consider the characteristics of the Buffer Zone, such as the presence of steep slopes...and conditions may include limitations on the scope and location of work in the Buffer Zone as necessary to avoid alteration of the Resource Area...including the preservation of natural vegetation adjacent to the Resource Area.

LEC Recommends reconsidering the close proximity of Basin P3-2 to the BVW.

4. The limit-of-work line for Basin P1-2 extends very close (within 3-7 feet) of the BVW between flags D14 to D19 and requires clearing of vegetation along a southern exposure. LEC recommends increasing the setback between this Basin and the BVW. See above comment #3.

As currently depicted on the plans, tree clearing also extends *into* the BVW between flags D14 and D19. Please correct this on all plan sheets.

5. Ms. Rimmer's Response #8 (Attachment D) does not provide a convincing argument relative to minimizing or preventing short-term construction related impacts or long-term wetland function impacts to the adjacent BVW relative to construction of Basins P1-2 and P3-2 (see LEC February 8, 2018 Memorandum comments #7 and #8).
6. Detail 11—Modular Retaining Wall on Sheet 10 has not been revised to show a stone footing base as referenced in Ms. Rimmer's Response #10 (Attachment D).
7. The Comprehensive Permit only refers to 55 Rear Pearson Drive, labeled on the plans as Parcel B Assessor's Map R-20 Lot 75 at 15.08 acres. Assessor's Map R-20 Lot 75 also includes the parcel labeled on the plans as 55 Pearson Drive as 1.28 acres. The Applicant is clearly proposing work, including the entrance road and proposed Wetland Replacement, on both of these 'parcels.' The filing should be corrected to include both parcels at a total of 16.36± acres.

8. The former Byfield Estates plans depicted the actual leaching beds for Leaching Area System 1 and Leaching Area System 2, but the Village at Cricket Lane plans only depict the outer limits or a 'box' for these two systems. This 'box' sits right on the 100-foot Title 5 Offset to Vernal Pool. This appears extremely tight and leaves no room for flexibility during construction. Please explain why the leaching beds have been removed and consider providing more of an offset from the Vernal Pool.
9. Please provide detailed information relative to the residence time of standing water within each of the stormwater basins during storm events. It is important to avoid standing water for any extended period of time within the basins to prevent vernal pool species from attempting to breed within the stormwater basins.
10. Prior existing condition and design plans for Byfield Estates acknowledge the presence of the Vernal Pool conterminous with the boundary of Isolated Wetland A and associated with Isolated Land Subject to Flooding. The Byfield Estates plans also depicted the 100-foot Title 5 Offset to this Vernal Pool. Please explain why this has been removed from the Village at Cricket Lane site plans. It appears that grading now extends to the edge of the Isolated Wetland/Vernal Pool and roof infiltration is proposed within 100-feet of the Vernal Pool.
11. LEC concurs with the comments provided by Joseph J. Serwatka and adds the following additional comments:
 - a. The Open Space Plans depict a 'parcel' of land to be deeded to the Commonwealth of Massachusetts Division of Fish and Game. Please clarify on the plans the limits and acreage of this 'parcel.' The Applicant also should clarify whether this deeding of land has been discussed with the Division of Fish and Game and report on their willingness or desire to accept.
 - b. Sheet 7 depicts a walking path near the base of the slope for connection to the adjacent Martin H. Burns Wildlife Management Area (WMA) under the care and custody of the Division of Fish and Game. Has the Applicant discussed this connection with the Division of Fish and Game and have they confirmed that such connection is consistent with the use and management of the WMA? As noted by Mr. Serwatka, the grading plans and detail sheets do not account for this trail. Please revise the plans accordingly.
 - c. All proposed features or work must be depicted on all plans including, but not limited to, retaining wall elevations and construction means and methods, decks, patios or other residential amenities described in the application, all site drainage, and required details for construction.

Of particular constructability concern is Mr. Serwatka's comment #12 regarding the setback between the dwellings and retaining walls, and the geosynthetic reinforcement required for construction of the retaining walls (see detail on Sheet 11). These setback distances do not



appear to be adequate to accommodate the geosynthetic reinforcement. Please review and clarify or modify the plans.

Uncovering all the subtle, but in some circumstances, significant changes to the plans between the original filing for Byfield Estates and this new filing for the Village at Cricket Lane has proven challenging. LEC looks forward to a thorough and detailed Public Hearing presentation noting all such changes.

Attachment A

Site Plan Review, Byfield Estate Comprehensive Permit Application,
Newbury, Massachusetts, dated February 8, 2018

MEMORANDUM

DATE: February 8, 2018

TO: Newbury Zoning Board of Appeals

FROM: Ann M. Marton, Director of Ecological Services

RE: Site Plan Review
Byfield Estates Comprehensive Permit Application
Newbury, Massachusetts

LEC File#: ToNEW\17-300.02

I have reviewed the 40B Comprehensive Permit Byfield Estates Plan Set (Sheets 1-17) dated March 22, 2017, and last revised January 3, 2018 prepared by Ranger Engineering & Design, LLC, and offer the following comments and recommendations.

Follow-Up

1. During the December 18, 2017 Public Hearing, Ben Osgood of Ranger Engineering & Design, LLC confirmed that the Applicant was willing to submit data to the Natural Heritage and Endangered Species Program (NHESP) for certification of the on-site Vernal Pool contained within Wetland "A" as requested in my December 15, 2017 Vernal Pool Site Visit Recap Memorandum. I contacted Mary Rimmer on January 31, 2018 and February 6, 2018 to confirm whether she had submitted these data. Ms. Rimmer submitted her data on February 7, 2018 and was assigned NHESP observation #V1687.

As also discussed during the December 18, 2017 Public Hearing, Pat Huckery, Northeast District Manager, MA Division of Fisheries and Wildlife, was willing to submit to NHESP the data she collected to certify the Vernal Pool contained within Wetland "D." These data have been submitted to NHESP via the Vernal Pool & Rare Species Reporting System (VPRS) and been assigned observation #1612.
2. Ben Osgood and Mary Rimmer have been in contact with me via email regarding the means and methods, and potential outcomes for establishing the extent of historic illegal fill on R-20, Lot 75 and R-20, Lot 76. This issue remains under discussion and has not been completely resolved.
3. During the December 18, 2017 Public Hearing, a concern was raised by a resident for the proper protection of the Northern Long-Eared Bat (*Myotis septentrionalis*), a Threatened Species under the federal Endangered Species Act (ESA, 50 CFR 17.11) and Endangered under the *Massachusetts Endangered Species Act* (MESA, M.G.L. c. 131 A).

Projects that result in tree removal activities shall comply with the 4(d) rule under the ESA (effective 2/16/2016), which states: “Incidental take resulting from tree removal is prohibited if: 1) Occurs within 0.25 mile radius of known northern long-eared bat hibernacula or 2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot radius from the known maternity tree during the pup season (June 1 through July 31).” NHESP follows the 4(d) rule.

Based on information available on the NHESP web site, last updated November 30, 2016 (see Attachment A), there are no known hibernacula within 0.25 miles, and no known occupied maternity roost trees on or within a 150-foot radius of the site. As noted on the NHESP web site, this information is updated as new information is received.

The Applicant must rely on the most current data available when applying for an EPA Construction General Permit and documenting ESA compliance for commencement of construction. If known hibernacula or maternity roost tree sites are discovered on or near the site and reported to the federal Fish and Wildlife Service (FWS) or NHESP, further consultation with these agencies would be required.

Design Considerations

4. The Site Plans depict construction of Stormwater Best Management Practices (BMPs), such as Detention Pond P1-2, outfall structures and conveyances, and the associated Emergency Overflow Weir within 100 feet of the Vernal Pool contained within Wetland “D.” Standard 6 of the Massachusetts Stormwater Handbook (Handbook, Chapter 1, Pages 15-16) and Table CA2: Standard 6 (Chapter 1, Page 18) specifically prohibit Stormwater BMPs within 100 feet of Vernal Pools. Item 3 of Table CA2 states “Stormwater BMPs must be set back 100’ from a certified vernal pool and comply with 310 CMR 10.60.” See Attachment B containing excerpted sections of the Handbook.
5. Item 4 under Table CA2 also states that “Proponents must perform a habitat evaluation and demonstrate that all stormwater BMPs meet the performance standard of having no adverse impact on the habitat functions of a certified vernal pool.” This information has not been provided by the Applicant.
6. I have been working with Cammett Engineering to evaluate whether the proposed project impacts the hydrology of the vernal pools contained in Wetland “D” and Wetland “A” and/or the hydrology of the adjacent wetland systems. Please cross-check my below concerns with the Cammett Engineering peer review comments.
 - 6a. Balanced pre- and post-development watersheds contributing to the two vernal pools/wetland systems.
 - 6b. Changes to groundwater hydrology contributing to the vernal pools relative to significantly impacting the location and distribution of water infiltrating into the ground that ultimately contributes to and affects the hydrology of the vernal pools. For example, consolidating

infiltration at one location within the footprint of the cul-de-sac versus spreading it out across the site to more closely mimic existing conditions. We also recommend evaluating other options including Low Impact Development (LID) techniques.

7. The Applicant is proposing construction right up to the boundary of and/or very close to Wetland “C” and Wetland “D.” I encourage the Applicant to review the following sections of the *Massachusetts Wetlands Protection Act Regulations* (310 CMR 10.00, the *Act Regulations*) to assist them in designing the project in a manner that will ensure proper protection of the adjacent wetlands (See Attachment C containing the below excerpted sections of the *Act*):
 - Preface to the Wetlands Protection Act Regulations, 2005 Revisions (pages 317 and 318);
 - Definition of Alter (page 338); and
 - 310 CMR 10.53 General Provision (1) for work in the Buffer Zone (page 412).
8. The Applicant should review the extent and proximity of proposed clearing in the Buffer Zone to Wetlands “C” and Wetland “D.” The Applicant should consider the physical, chemical, and biological impacts to these wetlands and vernal pools associated with vegetation clearing, soil disturbance, and grading very close to the wetlands, including changes in soil composition and litter that filter runoff; topography; hydrology; temperature; changes in the amount of light, including loss of shading; and reduction in nutrient inputs that can result in impacts to the wetlands and/or vernal pools.

Plan Content

9. Sheet 3 depicts the 100-foot Title 5 and Stormwater Setback to Vernal Pools and the 100-foot Buffer Zone to Wetlands. Please include these setbacks/buffer zones on all subsequent plans sheets (e.g. Sheets 4-8, 14, and 16).
10. Detail 11-Modular Retaining Wall on Sheet 10 does not provide sufficient detail relative to the required footing for construction of such a wall. This is of particular importance in any locations where walls are proposed proximate to the wetland boundaries. The footing typically extends beyond the wall and therefore would result in greater temporary impacts for construction of the wall.
11. The Applicant is proposing to construct the above Modular Block Retaining wall along the northwestern edge of the entrance roadway, roughly between stations 1+00 and 2+50. Plan Sheet 14 notes 350 sf of temporary BVW alteration, measuring 5 feet wide along the wall (although when I scale it on the plan it appears to scale as 4 feet). Plan 16 shows silt fence erosion controls snug to the base of the wall. In my direct experience monitoring installation of such walls, 5 feet is an extremely tight construction footprint. The Applicant needs to reconcile these differences and provide realistic limits-of-work for construction of this retaining wall.

12. Detail 3-Silt Fence/Hay Bale Barrier is not sufficient. The bottom 6-inches of the silt fence must be entrenched. It cannot rest on the ground surface. Hay bales must also be entrenched.
13. No detail or information relative to means, methods, design or construction of the proposed wetland replication area has been provided. We are assuming that the Applicant will provide this detail as part of their filing with the Conservation Commission. The Zoning Board of Appeals (the Board) should determine whether the current level of detail is acceptable for their review.
14. If helpful and acceptable to the Board, a working session amongst the Applicant's technical advisors and the Board's technical peer reviewers might prove helpful to keep the process moving forward and resolve technical issues.

Attachment A

Northern Long-Eared Bat
NHESP Web Site Information



The Northern Long-eared Bat

The Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB) is one of the species of bats most impacted by the disease White-nose Syndrome (WNS).

Due to severe population declines caused by WNS, the U.S. Fish & Wildlife Service (USFWS) listed the Northern Long-eared Bat as a Threatened species under the Endangered Species Act (ESA, 50 CFR 17.11) on April 2, 2015. NLEB is also listed as Endangered under the Massachusetts Endangered Species Act (MESA, M.G.L. c. 131 A).



Northern Long-eared Bat, Endangered. Photo by USFWS

Prohibited tree removal

Projects that result in tree removal activities shall comply with the 4(d) rule under the ESA (effective 2/16/2016), which states:

“Incidental take resulting from tree removal is prohibited if: 1) Occurs within 0.25 mile radius of known northern long-eared bat hibernacula or 2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot radius from the known maternity tree during the pup season (June 1 through July 31).”

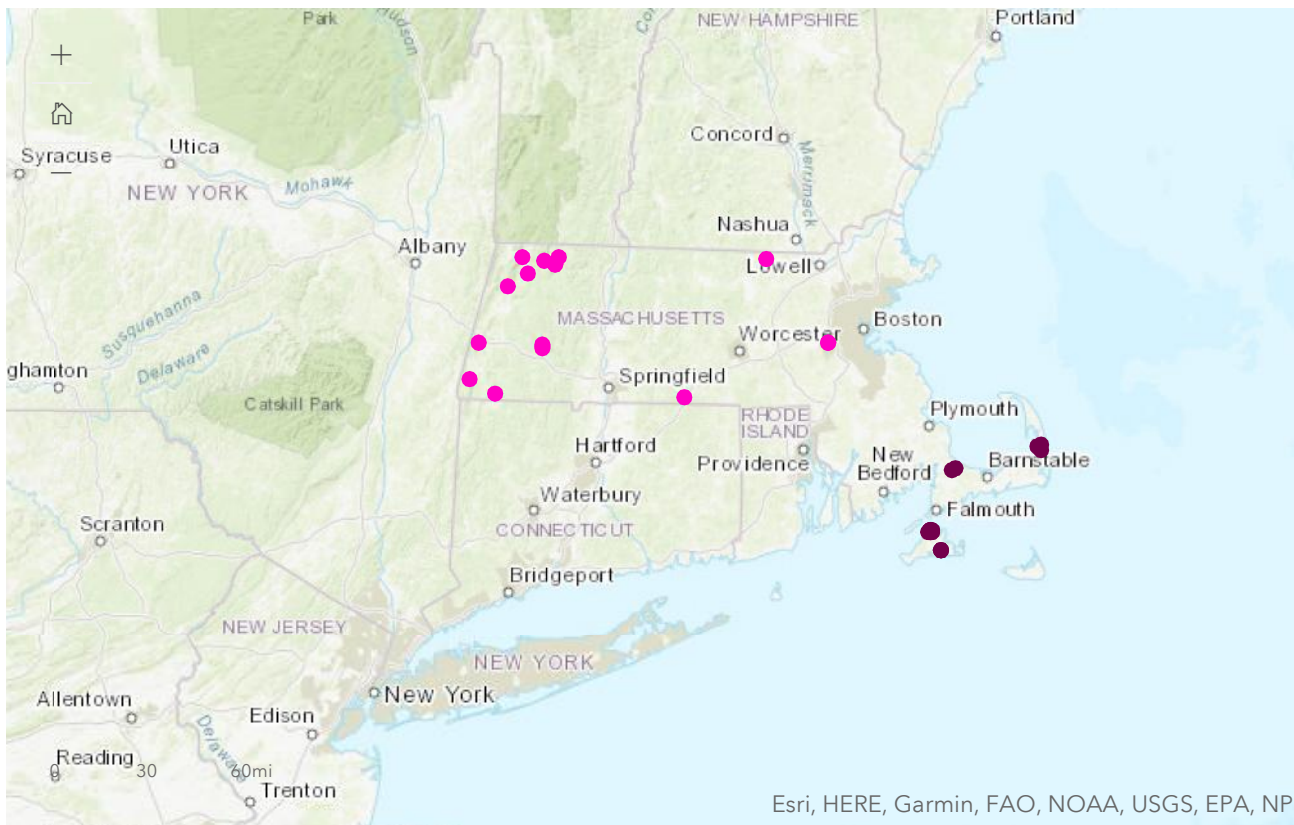
For more information on the Northern Long Eared Bat and the 4(d) rule, please visit:

<http://www.fws.gov/midwest/endangered/mammals/nleb/>. Please note that if your proposed project or activity is also within Priority Habitat as codified under the MESA, a separate [MESA review will be required](#).

To assist project proponents with the review processes described above, we are providing the following map for known locations of winter hibernacula and maternity roost trees. Please contact [USFWS](#) for additional information on project compliance with the ESA for the Northern Long-eared Bat.

A [full screen map](#) is also available and contains additional information, including the type of habitat (hibernacula or maternity roost tree) and whether the location is mapped as Priority Habitat.

*Please note this map is updated as new information is received. **Last Updated November 30, 2016.***



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[Natural Heritage staff directory](#) →

Attachment B

Massachusetts Stormwater Handbook Excerpts

Standard 6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or to any other critical area require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A “storm water discharge” as defined in 314 CMR 3.04(2)(a)1. or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00.²⁴ Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of the public water supply.

Critical areas are Outstanding Resource Waters as designated in 314 CMR 4.00, Special Resource Waters as designated in 314 CMR 4.00, recharge areas for public water supplies as defined in 310 CMR 22.02 (Zone Is, Zone IIs and Interim Wellhead Protection Areas for groundwater sources and Zone As for surface water sources), bathing beaches as defined in 105 CMR 445.000, cold-water fisheries as defined in 314 CMR 9.02 and 310 CMR 10.04, and shellfish growing areas as defined in 314 CMR 9.02 and 310 CMR 10.04.

Cold-water fisheries are waters in which the mean of the maximum daily temperature over a seven-day period generally does not exceed 68°F (20°C) and, when other ecological factors are favorable (such as habitat), are capable of supporting a year-round population of cold-water stenothermal aquatic life. Waters designated as cold-water fisheries by the Department in 314 CMR 4.00, and waters designated as cold-water fishery resources by the Division of Fisheries and Wildlife, are cold-water fisheries. Waters where there is evidence based on a fish survey that a cold-water fish population and habitat exist are also cold-water fisheries.

A shellfish growing area is land under the ocean, tidal flats, rocky intertidal shores and marshes and land under salt ponds when any such land contains shellfish. Shellfish growing areas include land that has been identified and shown on a map published by the Division of Marine Fisheries as a shellfish growing area, including any area identified on such map as an area where shellfishing is prohibited. Shellfish growing areas shall also include land designated by the Department in 314 CMR 4.00 as suitable for shellfish harvesting with or without depuration. In addition, shellfish growing areas shall include shellfish growing areas designated by the local shellfish constable as suitable for shellfishing based on the density of shellfish, the size of the area, and the historical and current importance of the area for recreational and commercial shellfishing.

A list of Outstanding Resource Waters is published in the Surface Water Quality Standards, 314 CMR 4.00²⁵. This list includes Class A public water supplies approved by MassDEP and their tributaries, active and inactive reservoirs approved by MassDEP, certain waters within Areas of Critical Environmental Concern, certified vernal pools, and wetlands bordering Class A waters. Wetlands bordering other Class B, SB, or SA ORWs are also Outstanding Resource Waters. Pursuant to the Surface Water Quality Standards, 314 CMR 4.00, MassDEP may designate as Special Resource Waters certain waters of exceptional significance such as waters in national or state parks and wildlife refuges.

Bathing beaches include public and semi-public bathing beaches as defined by the Massachusetts Department of Public Health in 105 CMR 445.000²⁶. The Department of Public Health maintains an inventory of public and semi-public bathing beaches.

²⁴ If an NPDES Construction General Permit or Multi-Sector General Permit is required for a discharge to an ORW, DEP must approve the Stormwater Pollution Prevention Plan (SWPPP).

²⁵ Surface Water Quality Standards – <http://www.mass.gov/eea/agencies/massdep/water/regulations/314-cmr-4-00-mass-surface-water-quality-standards.html>

²⁶ Standards for Bathing Beaches – <http://www.mass.gov/eohhs/docs/dph/regs/105cmr445.pdf>

Recharge areas for public water supplies are defined in the Drinking Water Regulations, 310 CMR 22.02²⁷, and include the Zone A for surface water supplies and the Zone II and Interim Wellhead Protection Areas for groundwater supplies. The Zone A means the land area between the surface water source and the upper boundary of the bank, the land area within a 400-foot lateral distance from the upper boundary of the bank of a Class A surface water source as defined in the Surface Water Quality Standards, 314 CMR 4.05(3), and the land area within a 200-foot lateral distance from the upper boundary of the bank of a tributary or associated surface water body. The Zone II means the area of an aquifer that contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated. The Interim Wellhead Protection Area is used for groundwater sources for public water supplies that lack a Zone II that has been approved by MassDEP.

Source control and pollution prevention are particularly important for critical areas. All projects that have the potential to impact critical areas shall implement a source control and pollution prevention program that includes proper management of snow and deicing chemicals. To protect critical areas, road salt must be properly stored within a Zone II or Interim Wellhead Protection Area or near an Outstanding Resource Water, Special Resource Water, shellfish growing area, bathing beach or cold-water fishery. The use of salt for the deicing of impervious surfaces must be minimized within water supply protection areas and any area near an Outstanding Resource Water, Special Resource Water, fresh water beach, or cold-water fishery. The long-term pollution prevention strategies for sites near critical areas must also incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. Proponents of MassHighway projects may satisfy this requirement by implementing the containment procedures outlined in the [Mass Highway Stormwater Handbook](#)²⁸.

A stormwater discharge within a Zone II or Interim Wellhead Protection Area or near or to an Outstanding Resource Water, a Special Resource Water, a bathing beach, shellfish growing area, or cold-water fishery requires the use of a treatment train that provides 80% TSS removal prior to discharge. This treatment train must use the structural BMPs determined by MassDEP to be suitable for such areas as set forth in Tables CA 1 through CA 4.²⁹ With the exception of runoff from a non-metal roof, and runoff from metal roofs located outside the Zone II or Interim Wellhead Protection Area of a public water supply or an industrial site, the treatment train shall provide for at least 44% TSS removal prior to discharge to the infiltration structure. For discharges within a Zone II or Interim Wellhead Protection Area or near or to an Outstanding Resource Water, a Special Resource Water, a shellfish growing area, a bathing beach, or a cold-water fishery, the treatment BMPs must be designed to treat the required water quality volume, a volume equal to one inch times the total impervious surfaces at the post-development site. All BMPs must be designed, constructed, operated and maintained in accordance with the specifications set forth in Volume 2 of the Massachusetts Stormwater Handbook.

²⁷ Recharge Areas – <http://www.mass.gov/eea/docs/dep/water/ccdefreg.pdf>

²⁸ Mass Highway Stormwater Handbook - <http://www.mhd.state.ma.us/default.asp?pgid=content/publicationmanuals&sid=about>

²⁹ To make sure that they have the most up-to-date list of these BMPs, proponents should consult the MassDEP web site.

Table CA 2: Standard 6

Stormwater Discharges Near or To Outstanding Resource Waters including Vernal Pools and Surface Water Sources for Public Water Systems	
<p>1. Construction Sites of 1 acre or more must file a Notice of Intent (WM 09) with MassDEP requesting approval of the Stormwater Pollution Prevention Plan (SWPPP), if they discharge to an ORW.</p> <p>2. Stormwater discharges to ORWs must be set back from the receiving water or wetland and receive the highest and best practical method of treatment.</p> <p>3. Stormwater BMPs must be set back 100' from a certified vernal pool and comply with 310 CMR 10.60³¹. Proponents must perform a habitat evaluation and demonstrate that the stormwater BMPs meet the performance standard of having no adverse impact on the habitat functions of a certified vernal pool.</p> <p>4. Unless essential to operation of a public water system, stormwater BMPs are prohibited within the Zone A.</p> <p>5. BMPs must be designed according to the specifications and sizing methodologies in Volumes 2 and 3 of the Massachusetts Stormwater Handbook.</p> <p>6. Required Water Quality Volume = 1.0 inch times impervious area.</p> <p>7. At least 44% TSS must be removed prior to discharge to infiltration BMP.</p> <p>8. For discharges near or to ORWs, proprietary BMPs may be used for pretreatment only unless verified by TARP or STEP for other uses. For the purpose of this requirement, subsurface structures, even those that have a storage chamber that has been manufactured are not proprietary BMPs, since the pretreatment occurs in the soil below the structure, not in the structure itself. See Volume 2.</p>	
Pretreatment BMPs	<p>Deep Sump Catch Basin</p> <p>Oil Grit Separator</p> <p>Proprietary Separators: See Volume 2</p> <p>Sediment Forebay</p> <p>Vegetated Filter Strip</p>
Treatment BMPs Sand Filters, Organic Filters, Proprietary Media Filters, Filtering Bioretention Areas, and Wet Basins must be lined and sealed unless at least 44% TSS has been removed prior to discharge to the BMP.	<p>Filtering Bioretention areas including rain gardens</p> <p>Constructed Stormwater Wetlands (<i>do not use near certified vernal pool</i>)</p> <p>Gravel Wetlands (<i>do not use near certified vernal pool</i>)</p> <p>Proprietary Media Filter (<i>Proprietary Media Filters may not be used for terminal treatment for discharges near or to critical areas, unless the filter has been verified for such use through the TARP or STEP process. See Volume 2. Proprietary Media Filters do not include Catch Basin Inserts.</i>)</p> <p>Sand /Organic Filters</p> <p>Wet Basins (<i>do not use near certified vernal pool</i>)</p>
Infiltration BMPs	<p>Exfiltrating Bioretention areas including rain gardens</p> <p>Dry wells (<i>runoff from non-metal roofs and runoff from metal roofs located outside the Zone II or Interim Wellhead Protection Area of a public water supply or an industrial site only.</i>)</p> <p>Infiltration Basins (<i>highly recommended</i>)</p> <p>Infiltration Trenches (<i>highly recommended</i>)</p> <p>Subsurface Structures</p>

For information on vernal pools, see MassDEP's Wildlife Habitat Guidance:

<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/wldhab.pdf>

³¹ Wildlife Habitat – <http://www.mass.gov/eea/docs/dep/service/regulations/310cmr10a.pdf>

Attachment C

Massachusetts Wetlands Protection Act Excerpts

Note: The following is a preface to, but does not form a part of, the Wetlands Protection Act regulations (310 CMR 10.00).

PREFACE TO THE WETLANDS PROTECTION ACT REGULATIONS, 2005 REVISIONS

General Approach

The Department revised the wetlands protection regulations in part to respond to recent data showing greater than expected loss of wetlands, particularly from unpermitted alterations of resource areas. By reallocating resources from issuing permits for work in the outer portion of the buffer zone, the Department can increase its outreach and enforcement efforts to address illegal filling of wetlands. In addition, the Department sought an approach to work in the buffer zone that would increase protection by requiring a setback and placing limitations on eligible work, combined with a more efficient review process. The revisions are intended to allow a reduction of time spent by both conservation commissions and the Department in reviewing proposed activities in the buffer zone more than 50 feet from wetlands. Clarifications to the regulations governing work in resource areas, particularly the review of work in the buffer zone under a Notice of Intent and the exercise of discretion in allowing alteration of bordering vegetated wetlands, will improve consistency and strengthen the protection of resource areas.

The Department convened an advisory committee consisting of development, conservation commission, and environmental interests. After exploring several options, the Department decided to pursue the concept of a simplified review process for eligible projects. The regulations create incentives for applicants to construct projects further away from wetlands. In return for the additional protection to wetlands from moving projects further from resource areas, the procedural aspects of approval and the opportunities for appeals are reduced. In particular, the requirement that projects seeking simplified review stay more than 50 feet from resource areas will increase protection over what is currently approved under the existing regulations. The Department received extensive public comment on the regulations and responded by tightening the eligibility requirements, limiting refile for subsequent work closer to resource areas, requiring verification of some eligibility requirements, clarifying procedures, and adding a sunset clause.

Background on Buffer Zones

Since the buffer zone was adopted as a regulatory mechanism in 1983, research on the functions of buffer zones and their role in wetlands protection has clearly established that buffer zones play an important role in preservation of the physical, chemical and biological characteristics of the adjacent resource area. Although jurisdiction over work in the buffer zone remains contingent upon a conclusion by the issuing authority that work near resource areas will result in their alteration, review of work in the buffer zone is likely to contribute to the protection of the interests of the Act. The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of the work and the proximity to the resource area.

Extensive work in the inner portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Soil and water chemistry within resource areas may be adversely affected by work in the buffer zone. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain wildlife habitat within resource areas.

Preface: continued

Simplified Review for Work in the Buffer Zone

The Department has established a simplified review for eligible activities in the buffer zone using an Order of Resource Area Delineation. The purpose of these revisions is to steer development further from resource areas and to ease the administrative burden on commissions and the Department. The revisions are designed to preserve the existing jurisdiction and standards of the wetlands regulations, while relying on certification by applicants of their project's eligibility.

To qualify for the simplified review, work in the buffer zone must be outside of and more than 50 feet from a resource area and located away from other sensitive areas, incorporate stormwater management, and provide erosion controls during construction. In response to concerns raised during the public comment period, the Department added several eligibility requirements. The slope within the buffer zone must be no steeper than 15%. No more than 40% of the buffer zone between 50 and 100 feet may be impervious surface. Simplified review is available only for buffer zones of inland resource areas. Finally, many commenters expressed concern about the potential for later filings for work in the first 50 feet of the buffer zone after taking advantage of the simplified review process. The Department has responded by adding a provision that prevents applicants from filing a Notice of Intent in the first 50 feet during the three year term of the Order of Resource Area Delineation and by adding a provision that explicitly requires the extent of prior work in the buffer zone to be taken into account in any subsequent filing.

An applicant must submit an Abbreviated Notice of Resource Area Delineation, with the fee and abutter notification, to confirm the extent of resource areas and the buffer zone and to certify eligibility. The conservation commission will confirm the delineation through an Order of Resource Area Delineation, which will be recorded. A commission may require a Notice of Intent if the Stormwater Management Plan does not meet Department standards. To address concerns raised during public comment about the lack of opportunity for conservation commissions to verify eligibility, commissions now may declare a site ineligible if it contains steep slopes, sensitive water resources, or rare species habitat.

In response to additional concerns about oversight, the Department has retained its protocol of conducting site visits if a project is appealed. The Department has also added a sunset clause of three years, which will require the Department to evaluate the simplified review process. The revisions will enhance wetlands protection by allowing reallocation of resources to enforcement and review of projects with greater impacts.

Standards for Work in the Buffer Zone under a Notice of Intent

The revised regulation establishes a narrative standard for work in the buffer zone performed under a Notice of Intent. Conditions on work in the buffer zone may include erosion controls, a clear limit of work, preservation of natural vegetation adjacent to the resource area, and design review to avoid alteration of wetlands. Characteristics of the buffer zone at a particular site, such as the presence of steep slopes or the absence of natural vegetation, may increase the potential for adverse impacts on resource areas. The review and conditioning of activities in the buffer zone should be commensurate with the extent and location of the work in the buffer zone and its potential to alter resource areas. The standard is intended to provide better guidance to applicants, conservation commissions and DEP by identifying the measures that will ensure that adjacent resource areas are not adversely affected during or after completion of the work.

Minor Activities

Minor activities are categories of work that are not subject to review. The proposed regulations would have allowed the expansion of single family homes of up to 20% as a minor activity and also would have allowed minor activities in the flood plain. In response to public comment in opposition, these proposals have been withdrawn.

10.04: continued

d. the squaring-off of fields and bogs, provided that the activity does not alter a Bordering Vegetated Wetland, there is no increase in the amount of land in production beyond the minimum increase necessarily resulting from making the boundary of any field or bog more regular, and no fill is placed within Bordering Land Subject to Flooding;

e. the construction of by-pass canals/channels and tail water recovery systems;

f. a change in commodity other than from maple sap production or forest products to any other commodity, provided that there is no filling of Bordering Vegetated Wetland and drainage ditches or the subsurface drainage system are not increased or enlarged;

g. the construction of a water management system such as a reservoir, farm pond, irrigation system, field ditch, cross ditch, canal/channel, grass waterway, dike, sub-surface drainage system, watering facility, water transport system, vent, or water storage system, or of a livestock access; and

h. the construction of composting and storage areas.

For the activities described in 310 CMR 10.04: Agriculture(c)(1)d. through h. there shall be no net loss of flood storage capacity; and

2. the reconstruction of existing dikes, the reconstruction and expansion of existing ponds and reservoirs, and the construction of tailwater recovery ponds and by-pass canals/channels occurring partly or entirely within a Bordering Vegetated Wetland, when directly related to production or raising of the agricultural commodities referenced in 310 CMR 10.04: Agriculture(a), in accordance with the following:

a. Prior to performing the work, the person claiming the exemption shall submit to the conservation commission for its review at a public meeting that portion of a certified farm Conservation Plan (CP) which relates to the work to be conducted in a Bordering Vegetated Wetland. The CP must be prepared in cooperation with the U.S.D.A. Natural Resource Conservation Service (NRCS), Memorandum of Understanding (MOU) between the Department and NRCS concerning CPs;

b. The conservation commission may, within 21 days of receiving the CP, provide the person claiming the exemption with written notification containing specific comments detailing the manner in which the CP has not been prepared in compliance with the terms of the MOU;

c. The person claiming the exemption shall provide SCS with a complete copy of the notification;

d. All revisions to the CP that relate to the delineation of Bordering Vegetated Wetlands shall be submitted to the conservation commission in accordance with 310 CMR 10.04: Agriculture(c)2;

e. All work shall be done in accordance with the CP; and

f. The maximum amount of Bordering Vegetated Wetland which may be altered by the above activities is:

- i. 5,000 square feet for reconstruction of an existing dike;
- ii. 10,000 square feet for expansion of an existing pond or reservoir;
- iii. 10,000 square feet for construction of a tailwater recovery pond; and
- iv. 5,000 square feet for construction of a by-pass canal/channel.

Alter means to change the condition of any Area Subject to Protection under M.G.L. c. 131, § 40. Examples of alterations include, but are not limited to, the following:

- (a) the changing of pre-existing drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns, flow patterns and flood retention areas;
- (b) the lowering of the water level or water table;
- (c) the destruction of vegetation;
- (d) the changing of water temperature, biochemical oxygen demand (BOD), and other physical, biological or chemical characteristics of the receiving water.

Provided, that when the provisions of 310 CMR 10.03(6) and 10.05(3) or 333 CMR 11.03(9) have been met, the application of herbicides in the Buffer Zone in accordance with such plans as are required by the Department of Food and Agriculture pursuant to 333 CMR 11.00: *Right of Way Management*, effective July 10, 1987, is not an alteration of any Area Subject to Protection under M.G.L. c. 131, § 40.

10.53: General Provisions

(1) If the Issuing Authority determines that a Resource Area is significant to an interest identified in M.G.L. c. 131, § 40 for which no presumption is stated in the Preamble to the applicable section, the Issuing Authority shall impose such conditions as are necessary to contribute to the protection of such interests. For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. The potential for adverse impacts to Resource Areas from work in the Buffer Zone may increase with the extent of the work and the proximity to the Resource Area. The Issuing Authority may consider the characteristics of the Buffer Zone, such as the presence of steep slopes, that may increase the potential for adverse impacts on Resource Areas. Conditions may include limitations on the scope and location of work in the Buffer Zone as necessary to avoid alteration of Resource Areas. The Issuing Authority may require erosion and sedimentation controls during construction, a clear limit of work, and the preservation of natural vegetation adjacent to the Resource Area and/or other measures commensurate with the scope and location of the work within the Buffer Zone to protect the interests of M.G.L. c. 131, § 40. Where a Buffer Zone has already been developed, the Issuing Authority may consider the extent of existing development in its review of subsequent proposed work and, where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of M.G.L. c. 131, § 40. The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.

(2) When the site of a proposed project is subject to a Restriction Order which has been duly recorded under the provisions of M.G.L. c. 131, § 40A, such a project shall conform to both the provisions contained in that Order and 310 CMR 10.51 through 10.60.

(3) Notwithstanding the provisions of 310 CMR 10.54 through 10.58 and 10.60, the Issuing Authority may issue an Order of Conditions and impose such conditions as will contribute to the interests identified in M.G.L. c. 131, § 40 permitting the following limited projects (although no such project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.59). In determining whether to exercise its discretion to approve the limited projects listed in 310 CMR 10.53(3), the Issuing Authority shall consider the following factors: the magnitude of the alteration and the significance of the project site to the interests identified in M.G.L. c. 131, § 40, the availability of reasonable alternatives to the proposed activity, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.

(a) Work on land to be used primarily and directly in the raising of animals, including but not limited to dairy cattle, beef cattle, poultry, sheep, swine, horses, ponies, mules, goats, bees and fur-bearing animals or on land to be used in a related manner which is incidental thereto and represents a customary and necessary use in raising such animals; and work on land to be used primarily and directly in the raising of fruits, vegetables, berries, nuts and other foods for human consumption, feed for animals, tobacco, flowers, sod, trees, nursery or greenhouse products, and ornamental plants and shrubs; or on land to be used in a related manner which is incidental thereto and represents a customary and necessary use in raising such products, provided they are carried out in accordance with the following general conditions and any additional conditions deemed necessary by the issuing authority:

1. there shall occur no change in the existing topography or the existing soil and surface water levels of the area;
2. all fertilizers, pesticides, herbicides and other such materials shall be used in accordance with all applicable state and federal laws and regulations governing their use; and
3. all activities shall be undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands as specified by the U.S.D.A. Soil Conservation Service, *Guidelines for Soil and Water Conservation*. A plan prepared by the U.S.D.A. Soil Conservation Service through a county conservation district for the improvement of land for agriculture shall be deemed adequate to prevent erosion and siltation.

Attachment B

Working Session Recap and Summary Byfield Estate Comprehensive Permit Application,
Newbury, Massachusetts, dated February 16, 2018

M E M O R A N D U M

DATE: February 26, 2018

TO: Newbury Zoning Board of Appeals

FROM: Ann M. Marton, Director of Ecological Services

RE: Working Session Recap and Summary
Byfield Estates Comprehensive Permit Application
Newbury, Massachusetts

LEC File#: ToNEW\17-300.02

The following provides a brief recap and summary of the February 15, 2018 Working Session.

Attendance:

Ann Marton, LEC Environmental Consultants, Inc.—ZBA Peer Reviewer
Robert Blanchett, W.C. Cammett Engineering, Inc.—ZBA Peer Reviewer
Mary Rimmer, Rimmer Environmental—Applicant’s Environmental Consultant
Ben Osgood, Ranger Engineering & Design, LLC—Applicant’s Engineer

Working Session:

We had a very productive working session that included the following:

1. Review and discussion of the LEC February 8, 2018 Site Plan Review Memorandum.
2. Review and discussion of the Cammett February 9, 2018 Peer Review Letter.
3. Reviewed in detail the MADEP Stormwater Management Policy with a particular focus on compliance with the set back requirements contained in Standard 6 and (see Cammett Recap for additional discussion of stormwater compliance).
4. Discussed means and methods for determining the extent of historic illegal filling on parcels R-20, Lot 75 and R-20, Lot 76 and the need for the Applicant (through Mary Rimmer) to prepare and submit to the Zoning Board of Appeals (ZBA) their findings in a formal document (versus our informal email dialogue to date) for the ZBA to review and for LEC to formally respond. The purpose of this exercise is to confirm the total amount of fill and confirm the total amount of required replication (historic fill plus that proposed as part of the Comprehensive Permit Application).

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WAKEFIELD, MA

WORCESTER, MA

RINDGE, NH



5. Based on discussions during the Working Session, Mr. Osgood committed to relocating all stormwater Best Management Practices (stormwater basins, roof infiltration, piping, outfalls, swales, etc.) greater than 100-feet from the two Vernal Pools contained in the A-Series and D-Series Wetlands.
6. Discussed the prudence in pulling Stormwater Basin P3-2 further away from the boundary of the C-Series BVW to avoid direct wetland alteration resulting from clearing, grubbing, and grading up to the edge of the BVW. While not completely solidified in our discussions, we are expecting Ms. Rimmer to submit a written report responding to LEC Comments 7 and 8 from our February 8, 2018 Site Plan Review Memorandum.
7. We discussed the practicalities of installing modular retaining walls and the required footings. Mr. Osgood is going to review the plans, clarify the type of wall, limits of work, and footing requirements. This should address LEC Comments 10 and 11 from our February 8, 2018 Site Plan Review Memorandum.

The above commitments will require the Applicant to re-assess their stormwater design, infiltration assumptions, and produce updated plans and stormwater calculations as well as prepare and submit written documentation relative to historic wetland filling and compliance with the performance standards for work in the Buffer Zone to ensure protection of adjacent BVWs.

I hope this recap proves helpful to the ZBA as they review the proposed project and to the Applicant's Representatives as they prepare revised plans and supporting documentation. I will continue my review of the project upon receipt of updated plans and supporting information.

Attachment C

Initial Peer Review of Revised Site Plans/Written Materials,
Byfield Estate Comprehensive Permit Application,
Newbury, Massachusetts dated March 15, 2018

M E M O R A N D U M

DATE: March 15, 2018

TO: Newbury Zoning Board of Appeals

FROM: Ann M. Marton, Director of Ecological Services

RE: Initial Peer Review of Revised Site Plans/Written Materials
Byfield Estates Comprehensive Permit Application
Newbury, Massachusetts

LEC File#: ToNEW\17-300.02

LEC is in receipt of and in the process of reviewing the following materials:

- Byfield Estates, Comprehensive Permit Application, Peer Review Response Letter prepared by Ranger Engineering & Design, LLC (Ranger), dated March 1, 2018 (received on March 5, 2018);
- 40B Comprehensive Permit Byfield Estates Plan Set (Sheets 1-17) prepared by Ranger Engineering & Design, LLC, dated March 22, 2017, and last revised March 1, 2018 (received on March 5, 2018);
- Stormwater Management Report 40B Development at 55 Pearson Drive, prepared by Ranger Engineering & Design, LLC, dated November 15, 2017, and last revised March 1, 2018 (received on March 5, 2018); and
- Site Plan Review-Byfield Estates Comprehensive Permit Application Response to Reviewer Comments Feb. 8, 2018 prepared by Rimmer Environmental Consultants, LLC (Rimmer) dated March 7, 2018 (received March 9, 2018).

While I have not completed my full review, to keep the process moving forward, I offer the following initial preliminary comments and recommendations to enable the Applicant's representatives to begin evaluating and modifying their plans/reports as soon as possible.

1. The footprint and amount of historic wetland filling referenced in Ms. Rimmer's March 7, 2018 Response Letter and attachments do not appear to correlate to the Ranger Plans.

Sheet 3 of the Site Plans graphically depicts as a gray shaded area 1,565 square feet (s.f.) of historic filling between flags D21 and E19.1. This amount of filling is based on the historic topo from the original subdivision plan.

The 1980 Aerial Image attached to Ms. Rimmer's Response Letter depicts historic wetland filling

between Flags E15 and E19 that is not shown on the Ranger plan.

Please add the filling between flags E15 and E19 (970 s.f. estimated by Ms. Rimmer) to plan Sheet 3 and revise the total historic wetland fill to 2,535± s.f. (1565 + 970 =2,535).

These changes also will affect sheets 3, 6, and 14 and the total amount of required Wetland Replication/Restoration.

2. During the February 15, 2018 Working Session we discussed relocating the Wetland Replacement Area north of the wetland system in the vicinity of wetland flags E8 and E12. The revised plans depict a 3,300 s.f. Wetland Replacement Area South of the E Series Wetland, directly behind the dwelling at 55 Pearson Drive within 20± feet of the driveway and 25± feet of the dwelling.

Based on the history of filling and the presence of a retaining wall in the wetland presumably to create a backyard, this does not appear to be an appropriate location for wetland replacement. The shape of the replacement area also does not appear to correlate to any existing grades or the adjacent wetland system.

No general grading of the Wetland Replacement Area has been depicted on the Grading and Drainage Plan (sheet 7) as referenced in Ms. Rimmer's Response #13.

Please explain the change in location, your rationale for this new location, and consider alternative locations.

3. During the February 15, 2018 Working Session we discussed Ranger's conservative assumptions in the stormwater design and calculations that may have resulted in over-sizing of the Basin P3-2 and or other proposed stormwater management systems. I have asked Cammet Engineering to consider this in their peer review of the updated materials as it appears that such conservative assumptions could be affecting Ranger's ability to accommodate our concerns relative to potential wetland impacts.
4. Item #7 of Ms. Rimmer's March 7, 2017 Response Letter discussing changes to Basin P3-2 states that "This change will create a minimum 10 +/- feet setback from the toe of the grading to the wetland edge making it easier to construct...."

The actual limit-of-work/erosion control line for Basin P3-2 extends very close (within 3-5 feet) of the BVW between flags C6 to C9; flags C9 to C13; and C18 to C22. LEC recommends increasing the setback between this Basin and the BVW.

5. The limit-of-work line for the newly located Basin P1-2 extends very close (within 3-7 feet) of the BVW between flags D14 to D19 and requires clearing of vegetation along a southern exposure. LEC recommends increasing the setback between this Basin and the BVW.

As currently depicted on the plans, tree clearing also extends *into* the BVW between flags D14 and D19. Please correct this on all plan sheets.

6. Ms. Rimmer's Response #8 has not provided a convincing argument relative to minimizing or preventing short-term construction related impacts or long-term wetland function impacts to the adjacent BVW relative to construction of Basins P1-2 and P3-2 (see LEC February 8, 2018 Memorandum comments #7 and #8).
7. Detail 11—Modular Retaining Wall on Sheet 10 has not been revised to show a stone footing base as referenced in Ms. Rimmer's Response #10.

Attachment D

Mary Rimmer's March 7, 2018 Response Letter and Attachments



REC

Rimmer Environmental Consulting, LLC

57 Boston Road ◦ Newbury, MA 01951 ◦ Tel 978-463-9226 ◦ Fax 978-463-8716

March 7, 2018

Town of Newbury Zoning Board of Appeals
Municipal Offices
12 Kent Way, Suite 200
Byfield, MA 01922

**Re: Site Plan Review - Byfield Estates Comprehensive Permit Application
Response to Reviewer Comments Feb. 8, 2018**

Dear Members of the ZBA:

Rimmer Environmental Consulting, LLC (REC) was retained by the applicant to assist with environmental compliance issues relating to the proposed development. REC performed wetland delineations and vernal pool evaluations on the site and have been advising the applicant on relevant performance standards under the Massachusetts Wetlands Protection Act (MGL Ch. 131 s. 40).

The following are responses to comments from your environmental peer reviewer, Ann Marton of LEC, dated February 8, 2018. The responses are ordered similarly to Ms. Marton's letter, with the subject of each comment paraphrased in italics.

1. *Vernal Pools*: REC has no further response to comments regarding the status of two vernal pools on the property, other than to report that Mass. Natural Heritage and Endangered Species Program confirmed receipt and processing of an electronic request for certification of the vernal pool within Wetland A submitted on February 7. As soon as information on certification is available it will be forwarded.
2. *Historic Filling on Lots R-20, Lot 75 and R-20 Lot 76*: REC has reviewed historic aerial photographs of the site provided by Col-East dated 1975 and 1980 (see Figures 1 and 2 attached). These photos were taken before and during site preparation for construction of the house at 57 Pearson Drive respectively. In order to compare the wetland signature on the photos with the current conditions, the current wetland boundary was overlaid onto the aerials. Based on this method, it was determined that some wetlands were likely filled or altered on the 55 Pearson Drive lot from construction activities at 57 Pearson Drive, between the current wetland flags D21 and E21 during the period between 1975 and 1980. The area of filling was estimated by Ranger Engineering based

on these figures to be 651 square feet. This alteration occurred prior to the effective date of the relevant Wetland Protection Act Regulations (310 CMR 10.00) in 1983¹.

The house at 55 Pearson Drive was constructed in approximately 1983. At some time after that date, a small concrete block and timber retaining wall was constructed and some grading was done in the rear yard close or possibly within the limits of a regulated wetland between. Based on the aerial images, current field inspection, and review of the topographic plan from the original Pearson Drive Subdivision (Plan Book 152 Plan 63) this encroachment appears to have occurred in the vicinity of wetland flags E15-E19 and was estimated by Ranger Engineering to be approximately 970 square feet.

The combination of the two alterations is estimated to be 1,621 square feet. While it can be argued that the statute of limitations limits the ability to enforce the unauthorized alteration which occurred in 1980 by a prior owner (or likely the original contractor), the applicant has agreed to incorporate mitigation for both of these alterations into its project plans by expanding the proposed wetland replication area that is required for mitigation of impacts associated with the roadway crossing by the amount of the estimated historic alterations so that there is no long term net loss of wetland resource areas.

3. *Northern Long- Eared Bat*: REC agrees with LEC's assessment and has no further comment.

Design Considerations

4. *Stormwater Best Management Practices*: As recommended by LEC, plans have been revised so that all BMPs located within 100 feet of the Vernal Pool boundaries recently established within the D-series wetland will be relocated more than 100 feet from the Vernal Pool boundary. The stormwater structure identified as Detention Pond P1-2 was originally located within 100 feet of this Vernal Pool. This structure was designed to control the rate of runoff prior to discharge only and was not designed to provide treatment and renovation of stormwater runoff, as treatment was being fully provided as required by the Stormwater Regulations by other upstream structures, so the quality of discharge from this structure was presumed under the Regulations to be clean. However, since it is technically a stormwater structure that is described in the Stormwater Regulations, its location has been revised so that it is entirely outside of the vernal pool buffer zone.
5. *Design Considerations – Wildlife Habitat Evaluation*: As described above, revised plans locate all stormwater structures greater than 100 feet from Vernal Pool boundaries, including Detention Pond P1-2 closest to the Vernal Pool in the D-series wetland and the infiltration chambers in the rear of the houses that were proposed within 100 feet of the Vernal Pool within the A series wetland. The infiltration chambers are proposed to simply enhance the recharge to the groundwater table of clean roof runoff. While the original proposed location of these structures would have had no adverse effect on the

¹ The Regulations to the Mass. Wetlands Protection Act were originally promulgated in 1974 but contained little detail on types of wetlands or protection measures until 1983.

function of the Vernal Pool within the A-series wetland, a strict reading of the Stormwater Regulations suggests these structures may be permitted within 100 feet of a Vernal Pool only upon completion of a Wildlife Habitat Evaluation. By relocating all of these BMPs, a Wildlife Habitat Evaluation is no longer triggered. The revision will allow the project to be in full compliance with this provision of the Stormwater Regulations and compliance presumes that the work will not result in an adverse impact to wetlands or their ability to continue to provide wildlife habitat.

6. *Project Impacts to Vernal Pool Hydrology:* The project has been designed to balance pre- and post-development hydrology contributing to the vernal pools/wetland systems. The pre and post-development watersheds contributing to the two vernal pools was calculated by Ranger Engineering on Figures 3 and 4 attached. The vernal pool abutting state land in wetland D has an approximately 18 acre watershed and the project will reduce that contributing watershed area by .9 acres or 5%. This change occurs at the most downstream end of the wetland where the pool is located, where the change has the least potential for impact to the hydro-period of the pool. In addition, groundwater contributions from the immediately adjacent watershed are likely to be greater due to infiltration from the septic treatment areas, more than off-setting any change in the watershed area. All discharge from the septic system is presumed under Title V to be clean.

The contributing drainage area to the vernal pool in Wetland A is much smaller, at 2.81 acres. It is being reduced by 0.46 acres or 16%. Groundwater contributions are expected to be similar to existing conditions by infiltrating roof runoff in this area, resulting in no significant change to the hydrology of this pool.

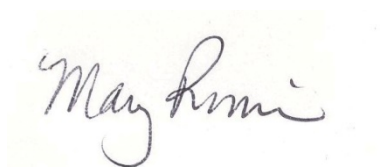
7. *Construction up to the boundary of and very close to Wetlands C and D:* The relocation of BMPs described in item 4 above will result in significantly expanded undisturbed buffer zone in the vicinity of Wetland D and will consolidate buffer zone impacts to the southern portion of the site. Plans have been revised at Detention Pond P3-2 to limit the extent of grading in close proximity to Wetland C. This change will create a minimum of 10+/- feet setback from the toe of grading to the wetland edge making it easier to construct without accidental incursion into the wetland providing a natural vegetated buffer to the wetland. In addition, the outer slope of the detention basin facing the wetland is proposed to be planted with a variety of native, berry-producing shrubs to further expand the undisturbed buffer zone upon completion of work by another 15+/- feet. This change will improve the wildlife habitat quality of the buffer zone beyond the typical loam and seeding that is traditionally specified on the back slope of these basins. A planting plan detailing the types, numbers and density of plantings will be provided as part of the Notice of Intent filed with the Conservation Commission and MassDEP.
8. *Review the extent and proximity of proposed clearing in the Buffer Zone:* These comments have largely been addressed under item 7 above. The changes described above will greatly minimize potential for short term construction related impacts to wetlands, including sedimentation from erosion of exposed soils, inadvertent cutting and clearing of vegetation too close too or beyond the limit of work. They will also protect long-term wetland function by minimizing loss of shade and cover near the

wetland boundary that can affect surface water and forest floor temperatures, and minimize loss of nutrient inputs from changes in vegetative communities.

Plan Content:

9. *Sheet 3: Setbacks and Buffer Zones* will be added to Sheets 4-8, 14 and 16.
10. *Detail 11- Modular Retaining Wall, Sheet 10:* The proposed wall does not require a footing other than the stone base indicated on the detail. A heavy duty siltation fence detail has been added to the detail sheets for use in this area.
11. *Construction of Modular Block Retaining Wall:* The temporary wetland impacts associated with construction of the retaining wall required to support construction of the access road were reviewed and the 5-foot width estimated for construction was determined to be reasonable to allow construction for this wall due to the absence of a poured footing. Equipment will be operated from the upland side of the wall and the proposed construction methods do not require heavy equipment access within the temporary impact area. The location of the erosion control barrier has been adjusted on the plan to reflect this temporary disturbance.
12. *Detail 3-Silt Fence/Hay Bale Barrier:* This detail will be revised as recommended to depict entrenchment of siltation fence.
13. *Detail on Wetland Replication Area:* General grading of the wetland replication area is depicted on the revised Grading and Drainage Plan. Details on wetland replication construction, plant types, sizes and densities as well as post-construction monitoring will be prepared and submitted to MassDEP and the Conservation Commission as part of a Notice of Intent for this project.
14. *Working Session among Applicant's and Town's Technical Advisors:* At LEC's recommendation, a working session among the applicant's and Town's representatives was conducted at LEC on February 15, 2018 to further discuss comments and potential responses. This session was extremely useful in understanding reviewers' concerns and obtaining feedback on the applicant's proposed responses.

Very truly,



Mary Rimmer, M.A., P.W.S.
Principal/Sr. Wetland Scientist

VERNAL POOL DRAINAGE AREA - D SERIES WETLAND

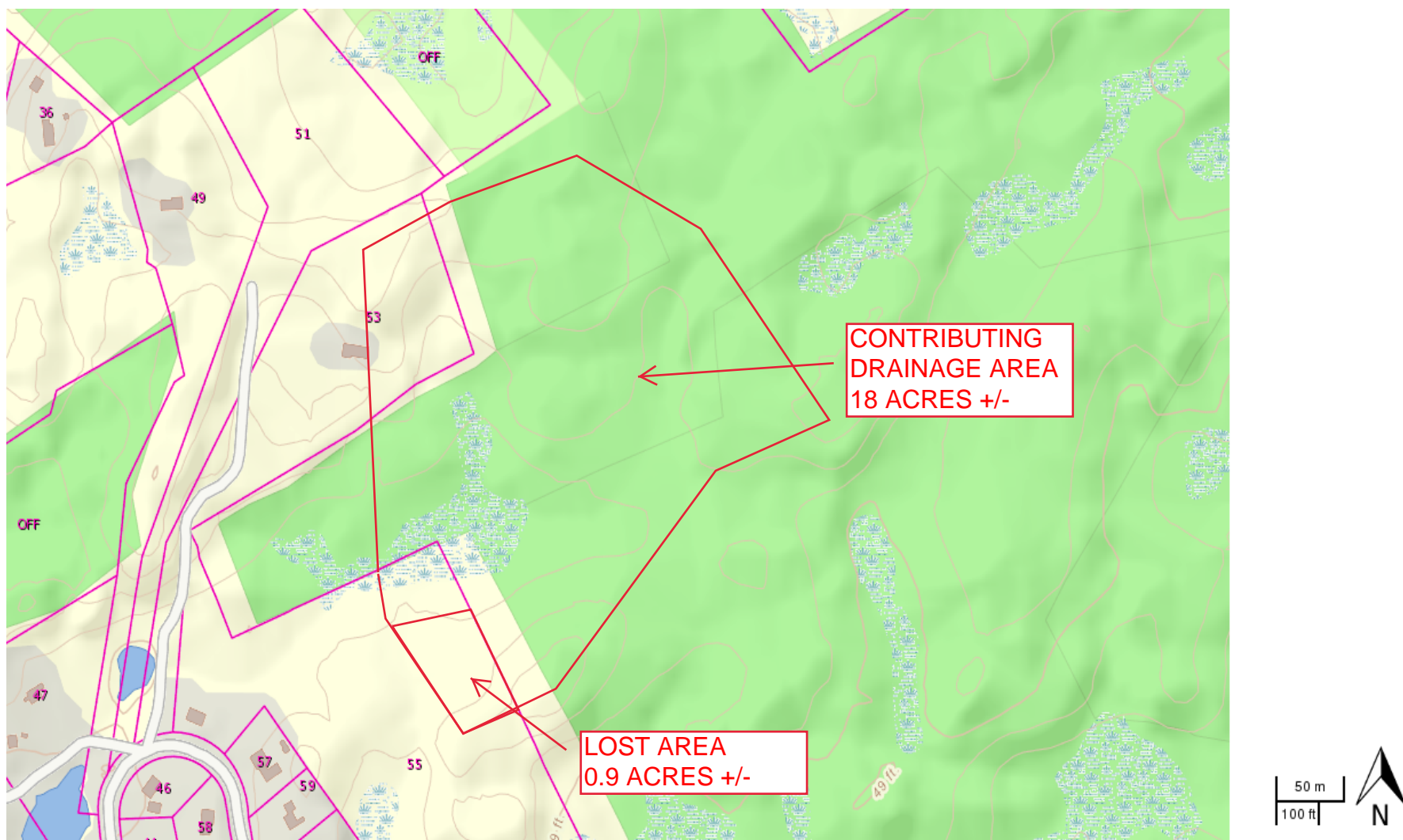


FIGURE 3

VERNAL POOL DRAINAGE AREA - A SERIES

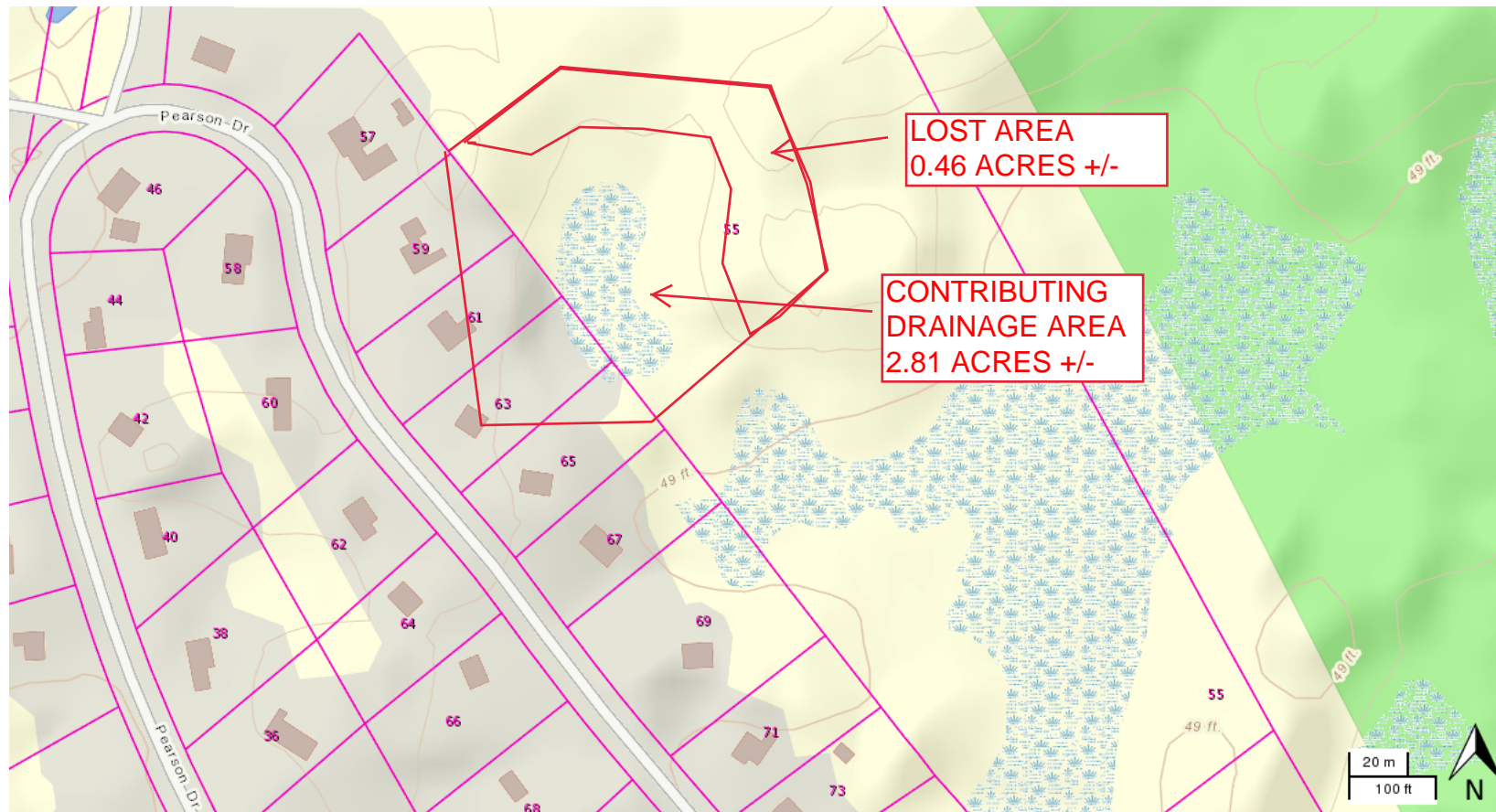


FIGURE 4