

January 6, 2023

Ms. Breeka Lí Goodlander, Agent
Town of Franklin Conservation Commission
355 East Central Street
Franklin, MA 02038

Re: 121 Grove Street - Franklin, MA
MassDEP File No. 159-1261
Abbreviated Notice of Resource Area Delineation Peer Review

Dear Ms. Goodlander,

BETA Group, Inc. (BETA) is pleased to provide peer review services for the Abbreviated Notice of Resource Area Delineation (ANRAD) submitted for the parcels located at **121 Grove Street, further identified as the Town of Franklin Assessor's Parcel IDs: Map 295, Lot 1 and Map 294, Lot 7 in Franklin, Massachusetts** (the Site). This letter provides BETA's peer review findings and comments as they relate to the Massachusetts Wetlands Protection Act (M.G.L. ch.131, §40) and its implementing regulations at 310 CMR 10.00 (collectively "the Act") and the Town of Franklin Wetlands Protection Bylaw (Chapter 181) and its implementing regulations (collectively "the Bylaw").

BETA performed Site visits on December 19 and 21, 2022 to review the onsite Resource Area boundaries and confirm existing conditions as they relate to the ANRAD filing. During the December 21, 2022 Site visit, BETA was joined by the following individuals:

- Christopher Lucas – Lucas Environmental, LLC. (LE) (*Applicant's Representative*)
- Breeka Lí Goodlander – Town of Franklin (*Conservation Agent*)

BETA's initial comments on the ANRAD filing pursuant to a review of documents and the two (2) Site visits are further discussed below.

DOCUMENTS REVIEWED

- Application entitled: **Abbreviated Notice of Resource Area Delineation 121 Grove Street Map 295, Lot 1 & Map 294, Lot 7, Franklin, Massachusetts**; prepared by Lucas Environmental, LLC.; dated November 18, 2022.
- Plan entitled: **Existing Conditions Site Plan 121 Grove Street Franklin Massachusetts**; prepared by Guerriere & Halnon. Inc.; dated May 20, 2022 and revised through November 16, 2022; stamped and signed by Robert E. Constantine II, MA P.L.S. No. 49611; 1 sheet.

SCOPE SUMMARY

The Applicant is requesting the Conservation Commission confirm the following Resource Areas boundaries, as noted in the application materials and as delineated and depicted on the ANRAD plan:

- 6,818 linear feet of Bordering Vegetated Wetlands (BVW)
- 253 linear feet of Isolated Vegetated Wetlands (IVW); and
- 4,345 linear feet of Bank (to intermittent streams).

The Applicant is also requesting that the Conservation Commission confirm the following:

- That the three (3) intermittent streams delineated as BF1, BF2, and BF3 are classified as intermittent;
- That Riverfront Area does not exist at the Site; and
- That there are no other Resource Areas located at the Site beyond what has been identified in the ANRAD application.

ADMINISTRATIVE REQUIREMENTS

The following provides an assessment of the plans in light of generally accepted existing conditions plan standards and the applicable plan requirements under Section 7.18 of the Bylaw Regulations:

Table 1 – ANRAD Plan Requirements

Plan Requirements	Yes	No
North Arrow (with reference)	✓	
Registered PLS Stamp	✓	
Assessors' Reference	✓	
Abutting Property Assessors' Reference		✓
Survey Benchmark		✓
Existing Conditions and Topography Sourced with date of survey	✓	
Topography/Contours	✓	
Lot Line Surveyed	✓	
Accurate Plan Scale	✓	
Resource Areas Identified and Labeled (including Buffer Zones)		✓

EXISTING CONDITIONS AND ONSITE RESOURCES

The 31.44-acre Site consists of the two (2) parcels identified above along the western limit of Grove Street. The Site is bounded to the north and west by Franklin State Forest, to the east by Grove Street, and to the south by an electric transmission line right-of-way. A walking path associated with Franklin State Forest bisects the northern portion of the Site. Improvements located within the eastern portion of the Site along Grove Street include a single-family dwelling, accessory buildings, gravel and paved driveways, and lawn areas. The remainder of the Site consists of mixed hardwood uplands vegetated with species including Eastern white pine (*Pinus strobus*), American beech (*Fagus grandifolia*), and red oak (*Quercus rubra*); palustrine and emergent wetland complexes; and maintained fields. Topographic relief at the Site generally follows a west-to-east orientation.

MassGIS environmental data layers mapped within or near the Site include the following:

Table 3 – GIS-Mapped Areas

Mapped Resource On or Within Proximity to the Survey Area	Yes	No
Area of Critical Environmental Concern		✓
NHESP Certified Vernal Pool		✓
NHESP Potential Vernal Pool		✓
NHESP Estimated Habitat of Rare Wildlife		✓
NHESP Priority Habitat of Rare Species		✓
Outstanding Resource Waters		✓

FEMA Floodplain		✓
Surface Water Protection Area (Zone A, B, or C)		✓
Interim Wellhead Protection Area		✓
Zone I Wellhead Protection Area		✓
Zone II Wellhead Protection Area	✓	

As depicted on the plan, and as described in the ANRAD application, the following Resource Areas exist within 100 feet of the Site:

- Bordering Vegetated Wetland (BVW);
- Isolated Vegetated Wetland¹ (IVW) (*Comment W8*); and
- Bank (to intermittent stream).

Table 3 further details these Resource Areas.

Table 3 – Resource Areas and Act/Bylaw Jurisdiction (*As identified by the Applicant*)

Resource Area	Flag Series	Act	Bylaw
BVW / Freshwater Wetland	A-1 to A-146	✓	✓
BVW / Freshwater Wetland	B-1 to B-92	✓	✓
Freshwater Wetland (IVW)	C-1 to C-16		✓
Bank (to intermittent stream)	BF1-1 to BF1-41	✓	✓
Bank (to intermittent stream)	BF1-100 to BF1-110	✓	✓
Bank (to intermittent stream)	BF2-1 to BF2-118	✓	✓
Bank (to intermittent stream)	BF3-1 to BF3-13	✓	✓

The above-referenced Resource Areas and Site conditions were reviewed by BETA outside of the normal growing season; however, no snow cover was present and frozen ground conditions were not encountered.

COMMENTS

W1. BETA provides the following administrative and plan comments after conducting a review of the submitted application and plan set:

- Provide a survey benchmark with a referenced NAVD88 elevation.
- Provide Assessor References for all abutting properties.
- Depict all Act and Bylaw Buffer Zones associated with the delineated Resource Areas.
- Include a note stating that Buffer Zones associated with offsite Resource Areas not assessed during the ANRAD process may constrain the Site.

W2. As indicated by the Applicant, United States Geological Survey (USGS) topographic maps do not depict the onsite streams delineated with flagging series BF1, BF2, and BF3, nor does the USGS StreamStats tool indicate that they are associated with drainage areas large enough to be classified

¹ IVWs are protected under the Bylaw as Freshwater Wetlands.

as perennial streams. Therefore, BETA concurs with the Applicant's assertion that the onsite streams are intermittent, and Riverfront Area does not exist at the Site.

- W3. The Banks associated with the onsite intermittent streams identified by the BF1-, BF2-, and BF3-Series flagging appeared to be accurately delineated and were generally characterized by an observable break in slope. In accordance with the definition of Bank under the Bylaw, the Applicant delineated the Bank along the mean annual flood level where present upgradient of the first observable break in slope.
- W4. BETA observed groundwater seeps with observable flow interior of both the WFA-Series and WFB-Series BVWs at the following locations:
- North of flag BF2-74;
 - East of BF2-2;
 - East of flag WFA-69 and south of flag BF1-104;
 - East of flag WFA-65;
 - South of flag WFA-109; and
 - East of flag WFB-64

These groundwater seeps meet the definition of intermittent streams per 310 CMR 10.04 with jurisdictional Bank due to the presence of a defined channel and hydraulic gradient. It is recommended that the Applicant delineate and survey locate these Banks for inclusion in the ANRAD, as these constitute additional Resource Areas not discussed in the ANRAD. The centerline of several of these features appear to have already been survey located.

Should the Applicant elect to not delineate these additional streams within BVWs, BETA recommends that a note be added to the plans indicating that interior intermittent streams within A and B Series BVW are present but were not subject to review under this ANRAD. In addition, the findings of the Order of Resource Area Delineation (ORAD) could reflect this.

- W5. BETA concurs with the Applicant's delineation of the WFB-Series BVW boundary based on an assessment of hydrophytic vegetation, hydric soils, and indicators of hydrology. Where the BVW boundary exists within disturbed / mowed areas (i.e., east of WFB-16), the Applicant appears to have accurately assessed hydric soils to determine the location of the BVW boundary. However, BETA recommends that the BVW boundary be extended due west of WFB-49 towards the drillhole in the stone wall to complete the delineation on the Site.
- W6. As noted in the ANRAD narrative, standing water approximately three (3) to four (4) inches in depth was observed within the WFB-Series BVW along the electric transmission right-of-way on December 19, 2022. BETA concurs with the Applicant's statement that the area is likely too shallow to support breeding habitat of vernal pool indicator species; however, a vernal pool survey was not conducted due to the time of year and the scope of the ANRAD.
- W7. BVW flags WFA-46 and WFA-47 were missing in the field; however, their location could be discerned and assessed as accurate by reviewing the existing conditions information provided by the Applicant. The remainder of the WFA-Series BVW boundary appeared to have been accurately delineated based on observations of hydrophytic vegetation, hydric soils, and indicators of hydrology. Where the BVW boundary exists within disturbed / mowed areas (i.e., east of WFA-24), the Applicant appears to have accurately assessed hydric soils to determine the location of the boundary, with the exception of the area south of flags WFA-29 through WFA-31 (*Comment W8 below*).

W8. The Applicant appears to have accurately identified the extent of wetland indicators from flags WFC-1 to WFC-3 and WFC-6 through WFC-11. However, BETA observed a continuation of wetland indicators beyond the northern extent of this Resource Area from flags WFC-4 through WFC-5 to the boundary of the WFA-Series BVW, connecting the WFC Series wetland to the WFA series BVW. BETA offers the following comments:

- a) In accordance with MassDEP publication entitled *Delineating Bordering Vegetated Wetlands under the Wetlands Protection Act (1995)*, the U.S. Army Corps of Engineers (USACE) publication entitled *1987 Corps Delineation Manual* (as well as its associated regional supplement), and 310 CMR 10.55(2)(c)², particular attention was given to soils when evaluating this area due to the vegetation being disturbed by ongoing mowing.
- b) BETA conducted over a dozen hand auger soil probes between the WFA- and WFC-Series wetlands. Generally, the soil profile consisted of an approximately six (6) to eight (8)-inch A-Horizon with a dark matrix color (10YR 3/1) containing at least a 15% coverage by redoximorphic features that were partially masked by organic matter. Sparse matrix depletions were observed within the A-Horizon in a portion of the test holes. A high-chroma (bright) soil horizon with significant redoximorphic concentrations and organic streaking was observed below the A-Horizon. Refusal was present at or around approximately 12 inches, and groundwater wept into the test holes at around six (6) inches below grade.

The soil profile within this area meets the criteria of Hydric Soil Indicator F6 (Redox Dark Surface)³, which is described as follows:

A layer that is at least 10 cm (4 inches) thick, starting at a depth \leq 20 cm (8 inches) from the mineral soil surface, and has: a. Matrix value of 3 or less and chroma of 1 or less and 2 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings, or b. Matrix value of 3 or less and chroma of 2 or less and 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings.

User Notes: This is a very common indicator used to delineate wetland soils that have a dark surface layer. Redox concentrations in mineral soils with a high content of organic matter and a dark surface layer are commonly small and difficult to see (figs. 30, 31, and 32). The organic matter masks some or all of the concentrations that may be present. Careful examination is required to see what are commonly brownish redox concentrations in the darkened materials. If the soil is saturated at the time of sampling, it may be necessary to let it dry at least to a moist condition for redox features to become visible. Soils that are wet because of ponding or have a shallow, perched layer of saturation may have any color below the dark surface. It is recommended that delineators evaluate the hydrologic source and examine and describe the layer below the dark colored surface layer when applying this indicator.

Although the publications referenced in Comment W8a. above caution against reliance on indicators of hydrology such as high groundwater levels outside of the growing season, the

² Where an area has been disturbed (e.g. by cutting, filling, or cultivation), the boundary is the line within which there are indicators of saturated or inundated conditions sufficient to support a predominance of wetland indicator plants, a predominance of wetland indicator plants, or credible evidence from a competent source that the area supported or would support under undisturbed conditions a predominance of wetland indicator plants prior to the disturbance.

³ This indicator is described in the publication entitled *Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.2, 2018.*

presence of redoximorphic features and organic streaking below the A-Horizon exhibits signs of a fluctuating high water table and anaerobic conditions within the soil.

- c) Although a close soils analysis was performed due to the disturbed state of vegetation and the review occurring outside of the growing season, BETA observed hydrophytic vegetation between the flagged WFA- and WFC-Series wetlands that appeared to include rough-stemmed golden (*Solidago rugosa*) and swamp dewberry (*Rubus hispidus*); however, definitive plant identification should occur during the growing season. In addition, a photograph of Site conditions taken during the growing season depicted dense sensitive fern (*Onoclea sensibilis*) between the flagged wetland boundaries.
- d) While Chapter 4 of MassDEP's BVW delineation guidance generally requires the presence of an underlying depleted matrix color, BETA notes that this guidance is intended as a tool to assist delineators in the field and does not constitute a regulatory requirement. The Act Regulations at 310 CMR 10.55(2)(c)2. state that when vegetation alone is not presumed to accurately delineate the BVW boundary, the Conservation Commission may also consider evidence of saturated / inundated conditions sufficient to support wetland indicator plants. 310 CMR 10.55(2)(c)2. states that these conditions shall be determined by presence of one or more of the following:
- Groundwater, including the capillary fringe, within a major portion of the root zone;
 - Observation of prolonged or frequent flowing or standing surface water; and
 - Characteristics of hydric soils.

BETA observed root zones within the capillary fringe as indicated by the presence of redoximorphic features, as well as the presence of a hydric soil indicator.

BETA recommends that the Applicant re-delineate this portion of the Site to include the WFC-Series wetland as part of the WFA-Series BVW.

- W9. BETA observed standing water at the location of test pit TP-6. Upon further investigation, BETA observed a soil profile consisting of several inches of organic material underlain by a soil horizon with a depleted matrix (chroma 2 or less) with approximately 15% coverage by prominent redoximorphic concentrations. Groundwater filled the entirety of the hole immediately upon investigation. Sparse vegetation was present in this area due to the disturbance caused by machinery; however, BETA observed sweet pepperbush (*Clethra alnifolia*) and several Eastern white pines with stressed/shallow root systems.

Groundwater levels at the ground surface were also observed north of test pit TP-6 within a dense stand of sweet pepperbush and highbush blueberry (*Vaccinium corymbosum*). Several dead, mature trees were also observed to be exclusive to this area. It appeared that an upland plant community was present between these two (2) areas.

Based on these observations, it appears that these areas meet the definition of Freshwater Wetland (i.e., IVW) due to a predominance of hydrophytic vegetation, hydric soils meeting hydric soil indicators referenced by MassDEP and USACE, and evidence of hydrology including saturated soils and stressed/dead vegetation. The Applicant should reevaluate these areas and document their findings on MassDEP Wetland Data Forms.

Review Summary

Based on our review of the ANRAD submittal and plan, and the existing conditions at the Site, it is BETA's opinion that the comments above should be addressed to facilitate the issuance of an accurate ORAD.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.



Jonathan Niro
Environmental Scientist



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