

July 07, 2022

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

Re: 585 King Street – Proposed Warehouse Development

Dear Ms. Goodlander:

The purpose of this supplemental peer review letter is to provide a summary of revised materials submitted by the Applicant and the discussions that occurred during the June 30, 2022 technical meeting held between your office, BETA Group, Inc. (BETA), Wetland Strategies, Inc. (WSI), and the Applicant. BETA's May 18, 2022 letter is provided below in plain text with updated/additional comments included in **bold text** and prefaced with **7/7/2022 UPDATE:**.

The comments included in this letter reflect BETA's understanding of the project design revisions, the discussions held at the June 30, 2022 meeting, and the current status of the concurrent Planning Board peer review process.

BASIS OF REVIEW

BETA received the following documents via email:

- Plans (36 sheets) entitled: *Preliminary Major Site Plan* dated October 8, 2021; revised through June 10, 2022; prepared by Bohler Engineering of Southborough, MA.
- Drainage Report dated October 13, 2021, revised June 10,2022, prepared by Bohler Engineering.
- **Response to Comments Letter** dated June 10, 2022, prepared by Bohler Engineering of Southborough, MA.
- Supplemental Information #3 letter to the Conservation Commission from LEC dated June 16, 2022.
- *Notice of Intent Application and Wetland Resource Area Analysis*; dated March 22, 2022, prepared by LEC Environmental Consultants, Inc.

Review by BETA included the above items along with the following, as applicable:

- Zoning Chapter 185 From the Code of the Town of Franklin, current through July 2021
- Zoning Map of the Town of Franklin, Massachusetts, attested to October 7, 2020
- Stormwater Management Chapter 153 From the Code of the Town of Franklin, Adopted May 2, 2007
- Subdivision Regulations Chapter 300 From the Code of the Town of Franklin, current through March 8, 2021
- Wetlands Protection Chapter 181 From the Code of the Town of Franklin, dated August 20, 1997
- Town of Franklin Best Development Practices Guidebook, dated September 2016
- Massachusetts Stream Crossing Standards, corrected March 8, 2012.

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INTRODUCTION

The Applicant proposes to develop tracts of land located at 585 King Street in Franklin, Massachusetts which includes four (4) parcels identified by the Town of Franklin Assessor's Office as Parcels 313-008, 313-053, 313-054, and 313-053. These parcels comprise a total area of approximately 28.9 acres (the Site). The Site is located within the Business zoning district, while the surrounding area is located within the Single-Family III zoning district. The Site is bounded to the north by Interstate I-495, to the west by undeveloped woodlands, to the south by single-family residences, and to the east by King Street. An easement associated with the New England Power Company (NEPC) bisects the Site in a northwest to southeast orientation, and an easement associated with AT&T intersects a portion of the Site in a north to south orientation. Existing improvements at the Site include utility towers and overhead wires, an underground utility line associated with AT&T services, a maintained gravel path, dirt trails, cleared areas, and a 42-inch culvert conveying an intermittent stream near the Site entrance.

Topographic relief at the Site is present to the south/southwest, adjacent to a Bordering Vegetated Wetland (BVW) complex and its interior intermittent stream channels. The Site generally consists of flatter areas with shallow slopes to the north and steeper (4H:1V) slopes to the south. The Site is not located within a FEMA mapped 100-year floodplain, a wellhead protection area, a surface water protection area, or any other critical area. There is no mapped Natural Heritage and Endangered Species Program (NHESP) habitat at the Site. The Natural Resources Conservation Service (NRCS) soil maps indicate the presence of the following soil types:

- Woodbridge Fine Sandy Loam with a Hydrologic Soil Group (HSG) rating of C/D (very low infiltration potential);
- Paxton fine sandy loam with an HSG of C (low infiltration potential); and
- Udorthents, loamy with an HSG of A (high infiltration potential).

The project has been modified since the initial submission. The Applicant now proposes to construct a 255,400±-square foot warehouse at the Site, which includes the following associated activities (collectively "the Project"):

- Construction of bituminous parking areas surrounding the warehouse;
- Construction of a bituminous driveway through a BVW and stream complex to provide access from King Street;
- Installation of a new culvert and retaining walls associated with the proposed access driveway;
- Installation of curbing, fencing, lighting, signage, landscaping, on-site septic system, transformers, trailer parking spaces
- Site utilities including water, sewer, gas, electric, telephone, and cable;
- Implementation of stormwater best management practices (BMPs) which include catch basins, manholes, water quality units, subsurface infiltrations systems, infiltration basins, and a detention basin.

The stormwater management design proposes closed drainage systems consisting of catch basins, manholes, and water quality units. Based upon the results of the recent soil testing, the design of the BMPs has changed significantly. The previously lined detention basin west of the proposed building is now designed as an infiltration basin. This allowed the proposed subsurface system in the same area closer to the building to be eliminated. In addition, this basin is no longer in series with the proposed infiltration basin west of the entrance driveway. The proposed subsurface infiltration system at the southeast corner of the building remains the same as does the infiltration basin at the southerly edge of the development. Except for the entrance driveway, all runoff from impervious surfaces on site will be directed through an infiltration BMP.



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Runoff from the entrance driveway will be directed through proprietary separators to meet Standard 4 for water quality. Overflow from all these features will be discharged west towards the stream which flows parallel with King Street. The outfall from Infiltration Basin A which is located at the south end of the building, will be located 50' from the wetlands. The outfalls from the other 2 basins will be outside the 100-foot wetland buffer zone.

STORMWATER MANAGEMENT & CULVERT CROSSING COMMENTS

Per the provisions of the Act and the Bylaw, the Project is subject to full compliance with the Standards. BETA has generally found that the design as revised will meet the Standards with minor revisions as noted below. The Applicant has also provided revised information to address issues related to the hydraulics/hydrology of the proposed stream crossing construction and culvert removal.

G1. The Project proposes a new culvert to facilitate a BVW/stream crossing. The new culvert is proposed at the confluence of two (2) intermittent stream channels; one flows parallel to King Street (the primary intermittent stream), and the other flows perpendicular to King Street (the intermittent tributary). Based on the proposed footprint of the roadway and culvert, it appears that the intermittent tributary will be conveyed into a pipe, and the primary intermittent stream will be spanned by a culvert. The Project also proposes to discharge runoff collected by catch basins to this stream via scour pads that appear to be located within the existing intermittent tributary and BVW.

It is recommended that the Applicant provide additional analysis and information needed to demonstrate compliance with the Stream Crossing Standards as required by the Act, including the following:

- Provide survey data to verify the depth/height of the channel as noted in the detail.
- Provide surveyed cross sections of Banks adjacent to the culvert to establish target slopes and grades for restored Banks and inform appropriate sizing/placement of the proposed coir logs.
- Clarify why removal of the substrate within the intermittent stream to be spanned is required, and if it is to be removed, how it will be stockpiled and preserved for reuse.
- Confirm with the Conservation Commission that this work will be reviewed as a Limited Project; otherwise, this design is not permittable, as the intermittent tributary being conveyed through a pipe does not mean the Stream Crossing Standards or performance standards for Bank or Land Under Water per 310 CMR 10.54(4) and 310 CMR 10.56(4), respectively. Limited Project status is a discretionary determination to be made solely by the Issuing Authority (i.e., Conservation Commission).
- Provide a stabilization and revegetation plan for the Banks within the culvert.

7/7/2022 UPDATE:

• The survey data provided on the revised plans has clarified the constructability and compliance details of the culvert crossing. Although this survey data has resulted in the Applicant electing to reduce the width of the crossing by four (4) feet (from 36 feet wide to 32 feet wide), the span currently proposed exceeds 1.2 times the bankfull width. In addition, survey data has indicated that the ceiling of the culvert will be set to provide 30 inches of headroom over the Banks.



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- The intent of the Applicant's design is to maintain existing grades surrounding the culvert and minimize any potential hydrologic/hydraulic disruptions. Due to the nature of a three (3)-sided culvert, the existing grade and substrate within the stream channel beneath the proposed culvert will remain undisturbed.
- Removal of existing vegetation in the vicinity of the proposed culvert and the underlying Banks will be limited to the minimum required to construct the culvert. A stabilization and revegetation plan for the Banks within the culvert is still required. Based on BETA's experiences with culvert crossing construction, it is recommended that the Applicant assess existing vegetation and its potential to survive in the shaded conditions that will be present along and under the culvert post-construction. Shade-tolerant vegetation should be proposed to supplement existing vegetation and monitored during the growing seasons subsequent to planting. Should establishment of vegetation prove difficult or infeasible, BETA recommends that the Applicant propose a contingency plan for stabilization (e.g., onsite detritus).
- The Applicant will provide additional information to WSI relevant to the comments on the Limited Project provisions.
- G2. As shown on Sheet C-905, the existing 42-inch corrugated iron pipe (CIP) culvert downstream from the proposed stream crossing will be removed. The downgradient flooding impacts associated with this removal should be determined. Additionally, the channel elevations at the removal site (319.5 feet to 319.0 feet) do not correlate with the culvert inverts of 318.0 feet to 317.8 feet as indicated on the survey plans. The Applicant should clarify the elevations of this restoration area.

7/7/2022 UPDATE: Based on additional survey provided in this area and depicted on the revised plans, the Applicant has addressed the elevation discrepancies between existing and proposed conditions.

G3. Under existing conditions, there is significant ponding behind the existing 42-inch CIP culvert that would be directly impacted by the removal of the culvert. Based on the existing topography, backwater from this culvert has the potential to extend over 300 feet upstream from the culvert. The potential impacts of the removal of this culvert should be reviewed not just for downgradient flooding issues, but also for the ability to maintain the hydrologic regime for the upgradient BVW complex. If necessary, the proposed channel cross section should be modified to maintain hydraulic conditions similar to the existing culvert in order to preserve the hydrologic conditions within the existing BVW complex.

7/7/2022 UPDATE: The additional survey data indicates that the stream flows at a consistent slope through the proposed development area and the potential for frequent backwater conditions at culvert under existing conditions is extremely limited. BETA reviewed the next downstream hydraulic restriction (Emilio Drive culvert) and noted that this culvert may have the potential to handle substantial volumes due to its size. Therefore, even if periodic backwater conditions are present at the Site that may be reduced due to the removal of the culvert, the Applicant has provided a reasonable evaluation of how hydrologic conditions will be maintained and addressed in the design.

The stream segment proposed as a replacement for the removed culvert will match invert elevations of the existing culvert. In addition, the proposed increase in width and Manning's



Roughness Coefficient¹ along this portion of the stream is anticipated to mimic existing conditions during low flow. The Applicant has also clearly defined the limits of stream restoration through depicting the proposed coir logs along the constructed Banks.

G4. It does not appear that the existing culvert beneath the gravel access path can be removed without proposing work on the abutting parcel. Provide a detail which demonstrates that the work activity will not extend to the abutting parcel or demonstrate the right to conduct activity on the abutting parcel. BETA received verbal confirmation that the abutter will allow the activity to extend onto their parcel; however, the owner of this parcel is not party to the NOI submittal. This issue should be addressed with the Conservation Commission.

7/7/2022 UPDATE: The Applicant is pursuing written permission from the abutter for this activity. BETA will defer this issue to the Commission.

G5. Provide surveyed cross sections of Banks adjacent to the culvert to be removed to establish target slopes and grades for restored Banks and inform appropriate sizing/placement of the proposed coir logs.

7/7/2022 UPDATE: See Comment G3 above.

G6. Provide an additional assessment of stream substrate upstream and downstream of the proposed stream restoration area and determine sizing for materials to be used as a replacement substrate.

7/7/2022 UPDATE: The Applicant has described appropriate substrate and embankment materials in the supplemental information submittal. The materials should be identified in the detail for the crossing.

G7. Provide rip-rap sizing calculations for the W-600, W-601, and W-602 stormwater outlets. Currently, it is uncertain whether additional scour protection will be needed for the velocity of discharges at these locations. Consider including additional details for how these three (3) outlets will combine flows and hydraulically connect to the stream to the north and continue to provide hydrology to the stream. It is recommended that the Applicant also consider a more natural, washed river stone at this location.

7/7/2022 UPDATE: The rip-rap outfall now extends to the primary stream channel. The sizing calculations are described in the drainage report; however, the detail provided on the plans does not sufficiently specify the sizing noted in the drainage report or the depth of the scour hole. Revised details should be provided for this outfall. As discussed at the June 30, 2022 meeting, the Applicant will be reassessing this outfall to determine if additional water quality improvements can be implemented.

G8. The proposed entrance driveway will convey approximately 125 feet of the tributary intermittent stream associated with an existing outfall along King Street through a 36-inch high-density polyethylene (HDPE) pipe. There is no proposed replication for the impacted Bank or Land Under Water associated with this tributary stream. Although the Applicant has filed this crossing as a Limited Project pursuant to 310 CMR 10.53(3)(e), this work has the potential to impact surrounding Resource Areas beyond the footprint of the stream channel (e.g., hydrologic regime of the primary intermittent stream) and may impact the flow of the intermittent tributary. BETA recommends that the Applicant document whether there are alternatives to this design, and if not, provide additional information documenting that the design will maintain existing hydrology and will not restrict flow. It is

¹ The Manning's Roughness Coefficient is used in the Manning's Equation to calculate flow in channels based on the underlying material.



recommended that a stabilized hydrologic connection between the pipe discharge and the existing intermittent stream channels be evaluated to mimic existing conditions.

7/7/2022 UPDATE: Based on discussions at the June 30, 2022 meeting, the Applicant does not believe that there are any viable alternatives to the proposed outfall locations.

G9. Although BETA recognizes that the NOI process is not intended to review specific means and methods of construction, the Applicant should provide additional details on how flows will be maintained during work to avoid drainage surcharge within King Street and adverse impacts to the hydrology of the primary intermittent stream. BETA notes that this Project will be subject to the conditions of the U.S. Army Corps of Engineers Massachusetts General Permit pursuant to the Clean Water Act; therefore, techniques employed to maintain flow should align with the General Permit requirements to prevent conflicts between permits. The plan notes that stream diversion may be conducted by pumping stream flow into a sediment-filtering bag, which is not permittable under the Massachusetts General Permit Condition 16.b.i. The plans should depict a proposed footprint of diversion and dewatering activities to ensure that the work can be appropriately permitted and can be feasibly conducted.

7/6/2022 UPDATE: This matter will be addressed in the Stormwater Pollution Prevention Plan (SWPPP). BETA recommends that a final copy of the SWPPP be presented to the Commission prior to the start of construction.

G10. The design of the intersection may have potential impacts on the entrance roadway drainage system by allowing runoff from King Street to enter the drainage system. It is suggested that the existing catch basin at the intersection be relocated to the edge of the entrance driveway pavement, away from the center of the Site driveway, to prevent localized runoff from circumventing treatment.

7/7/2022 UPDATE: The catch basin has been relocated on the revised plans.

ADDITIONAL 7/7/2022 UPDATE: The wetland replication areas were discussed at length during the June 30, 2022 meeting. Based on comments from the Conservation Agent and WSI, these areas should be relocated outside of the New England Power Company easement. BETA agrees that sufficient area outside of the easement is available for wetland replication and should be pursued even if infiltration basin redesign is required.

Thank you for this opportunity to assist you with this application. If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours, BETA Group, Inc.

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Jonathan Niro Environmental Scientist

cc: Amy Love, Town Planner Job No: 4830 - 80

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Gary D. James, P.E. Senior Project Manager

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