

May 2, 2024

Mr. William F. O'Connell, Jr.
Bellingham Planning Board
Municipal Center
10 Mechanic Street
Bellingham, MA 02019

**RE: Zoning/Civil Engineering Technical Review #2
 Proposed Warehouse Building Development
 306 Maple Street, Bellingham**

Dear Mr. O'Connell,

This letter is to advise that we have reviewed the revised materials submitted for the proposed warehouse building development project located at 306 Maple Street in Bellingham, Massachusetts. The submission includes the following documents:

1. Response to comment letter prepared by Allen Engineering & Associates, Inc., dated April 4, 2024;
2. Plans entitled "Site Plans for Proposed Warehouse Building at 306 Maple Street," prepared by Allen Engineering & Associates, Inc., dated September 6, 2023, revised April 4, 2024;
3. Report entitled "Drainage Analysis for Proposed Warehouse Building at 306 Maple Street," prepared by Allen Engineering & Associates, Inc., dated September 6, 2023, revised April 4, 2024;
4. Report entitled "Sound Study of 306 Maple Street, Bellingham, MA," prepared by Tech Environmental, dated April 4, 2024;
5. Report entitled "Stormwater Pollution Prevention Plan (SWPPP)," prepared by Allen Engineering & Associates, Inc., dated February 7, 2024; and
6. Photometric exhibit entitled "306 Maple Street" prepared by Reflex Lighting, dated March 22, 2024.

These documents have been reviewed for conformance with the following Bylaws and Regulations:

- Bellingham Zoning Bylaws including dimensional requirements and parking requirements;
- Massachusetts Department of Environmental Protection Stormwater Management Standards;
- Town of Bellingham Subdivision Rules and Regulations (§ 245-13 Stormwater Management);
- Town of Bellingham Planning Board Procedural Rules (Section Seven: Post-Construction Stormwater Management Plan for New Developments and Redevelopments); and

- Bellingham Wetland Regulations (§ 247-33 Stormwater Compliance).

Environmental Partners Group, LLC (EP) have prepared a zoning/civil engineering review and a traffic review of the project. This letter only includes the zoning/civil review of the project. For the traffic review, refer to the traffic review letter prepared by EP.

Background

The proposed project at 306 Maple Street includes the construction of a 59,400 square foot single story warehouse building with associated parking and loading areas, site driveways, stormwater management system, and on-site sewage disposal system.

The 11.5-acre site is bounded to the north by commercial property, to the south by single family dwellings, to the east by vacant land in the Town of Franklin, and to the west by Maple Street and commercial properties.

The site is currently wooded and undeveloped with the exception of a small single-family dwelling, detached garage, and shed structure. Wetland resources areas on-site include a Perennial Stream in the northeast corner, an associated 200-foot Riverfront Area, and Bordering Vegetated Wetlands.

Comments

Our comments note missing items and noncompliance with various standards as outlined below.

Bellingham Zoning Bylaws

1. § 240-17. B. (1) (j) requires site plans submitted under an application for development plan approval to include the location, height, size, materials, and design of all proposed signage. Additional details should be provided for the proposed monument sign.

AE&A Response (4/4/24): A monument sign detail has been added to Sheet C-10.

EP Response (4/19/24): Item closed.

2. In the Project Narrative, the Applicant claims that the project is proposed within the Industrial Zoning District, in which "Warehouse" use is allowed by right. However, both the Town of Bellingham, Massachusetts Zoning Map dated March, 2020 and the Town of Bellingham GIS indicate that the subject property is fully within the Suburban Zoning District. "Warehouse" use is prohibited in the Suburban District.

AE&A Response (4/4/24): The Zoning Map does not accurately reflect the current zoning classification. The site is located entirely within the Industrial Zoning District, where warehouse is allowed by right.

EP Response (4/19/24): Acknowledged; EP defers to the Zoning Board of Appeals on this matter.

3. The Zoning Table on Sheet C-5 of the Site Plans shows the zoning requirements for the Industrial Zoning District. As described above, the subject property lies within the Suburban Zoning District.

AE&A Response (4/4/24): See above response.

EP Response (4/19/24): Acknowledged; EP defers to the Zoning Board of Appeals on this matter.

4. The Site Plans do not contain a detail of the lighting fixture poles. The Applicant should add a detail of all proposed lighting fixture poles with heights, conforming to the requirements outlined in § 240-49.

AE&A Response (4/4/24): Additional lighting information has been added to Sheets C-8 and C-10. A photometric exhibit has also been provided, which demonstrates zero light spillage at the property lines with the exception of the main vehicular entrance.

EP Response (4/19/24): Item closed.

5. § 240-48 and § 240-52 pertain to noise and vibration requirements, respectively. The Applicant has not submitted any materials providing information regarding the project's conformance to these noise and vibration requirements.

AE&A Response (4/4/24): §240-48, Noise; this is addressed in the Sound Study, prepared by TECH Environmental, dated December 20, 2023. The study was provided to the Board under a separate Scenic Road Permit application. Per the recommendations of the study, the revised site plans include a sound barrier along the southern site boundary to mitigate sound. §240-52, Vibration; the proposed warehouse use will not generate vibrations above the thresholds outlined. No manufacturing or other activities that generate excessive vibration will occur on the site.

EP Response (4/19/24): A construction detail of the sound barrier should be added to the plans prior to construction. **Item closed.**

6. § 240-63 requires one bicycle parking space for every 20 off-street automobile spaces required. The Site Plans do not show any bicycle parking spaces or bicycle rack construction details.

AE&A Response (4/4/24): Accommodations for six (6) bicycle spaces have been added to the plan in the vicinity of the main entrance.

EP Response (4/19/24): The location of a bicycle rack was added to Sheet C-5, however, no construction detail has been added.

7. § 240-136 stipulates that "any private party intending to submit an application for building construction ... which may be fully or partially within the Water Resource District must meet with the Zoning Inspector" to determine if the requirements of the Water Resource District under Article XX of the Zoning Bylaw apply. Based on Bellingham's "Water Resource District

Map”, there is a small portion of the back of the subject property within the Water Resource District. While it does not appear that any work is proposed within the Water Resource District, we defer to the Zoning Inspector whether Article XX applies to this project.

AE&A Response (4/4/24): AEA and the Applicant met with the Building Commissioner who has determined that the project is not subject to a special permit under the provisions of §240-136. Separate correspondence from the Building Commissioner has been provided the Board for their records.

EP Response (4/19/24): Item closed.

Massachusetts Stormwater Management Standards

8. *Standard 1: No new untreated discharges to wetlands*

As stated in the Drainage Analysis, the new stormwater discharges are treated and provide hardened outfalls to prevent surface erosion.

AE&A Response (4/4/24): No response required.

EP Response (4/19/24): Item closed.

9. *Standard 2: Peak rate attenuation*

The Drainage Analysis provides tables that compare peak rates and volumes of runoff between pre-development and post-development conditions at the design point for the 2-, 10-, 25-, and 100-year storm events. We have the following comments on the stormwater design that may impact this analysis:

- a. The invert elevations for the Cultec System (Pond 1P in HydroCAD) do not exactly match the corresponding elevations of the Cultec System on the Site Plans and construction details.

AE&A Response (4/4/24): The detail on sheet C-11 has been revised to match the HydroCAD elevations.

EP Response (4/19/24): Item closed.

- b. The elevations of the outlet devices of the basin (Pond 4P) in HydroCAD do not match the corresponding elevations on the Site Plans (namely, the 12” orifice and the broad crested weir/spillway). The narrative also claims the top berm of the basin is 220.00’, whereas it is shown as 220.50’ on the Site Plans. All submitted materials (Site Plans and HydroCAD) should have consistent elevations pertaining to stormwater best management practices (BMPs).

AE&A Response (4/4/24): All of the detail elevations match the HydroCAD elevations on the revised plans and report.

EP Response (4/19/24): The inconsistencies of the outlet control structure between the plans and HydroCAD have been rectified. However, the construction detail and the HydroCAD analysis indicate that the elevation of the rip rap overflow spillway is 216.00, whereas the plans show the spillway at an elevation of 215.60.

- c. The peak surface elevation of the 100-year storm in the Cultec System is 230.73'. This is higher than the upstream catch basins (rim at 230.50') as well as the top of stone in the system. We recommend increasing the storage capacity of the Cultec System such that there is no surface ponding during the 100-year storm.

AE&A Response (4/4/24): The revised drainage analysis shows the peak elevation to be at 230.07 and the catch basin to be at 230.50.

EP Response (4/19/24): Item closed.

- d. The three test pit logs associated with the Detention and Infiltration Basin show mottles at approximately 40-inches below existing grade, suggesting that the groundwater table slopes consistently with the ground surface. The grading of the proposed Detention and Infiltration Basin is designed such that the proposed finished grade is at least two feet above estimated seasonal high groundwater (ESHGW) elevations along this slope. We recommend the Applicant observe the construction of this basin to ensure that it is constructed with the same level of precision as the design, thus preventing groundwater breakout. This slope will need to be monitored for groundwater breakout.

AE&A Response (4/4/24): Acknowledged.

EP Response (4/19/24): Item closed.

10. Standard 3: Recharge

- a. The Applicant should provide the stage storage tables that show the static recharge volume provided at: (1) below the lowest outlet of the Cultec chamber system (elevation 229.35' per the construction detail), and (2) below the lowest outlet of the Detention and Infiltration Basin (elevation 214.50' per the construction detail).

AE&A Response (4/4/24): The stage storage tables have been added to the report as requested.

EP Response (4/19/24): Item closed.

- b. The 72-hour drawdown calculations for the Detention and Infiltration Basin in the Drainage Analysis are inconsistent with the values in HydroCAD. The storage capacity of the basin up to the spillway elevation is approximately 11,000 cf, and the area of the bottom contour (211') is 880 sf. The calculations in the Drainage Analysis use significantly smaller numbers.

AE&A Response (4/4/24): The 72 hour drawdown calculations have been revised to reflect the new sizes of the basins.

EP Response (4/19/24): Item closed.

11. Standard 4: Water Quality

As stated above in Comment 10a, the Applicant should provide stage storage tables that show the static recharge volume provided below the lowest outlet of the Cultec chamber system (elevation 229.35' per the construction detail). In the Drainage Analysis, the Applicant indicates that the volume provided below the lowest outlet of the Detention and Infiltration Basin is 21,743 cf. This is not consistent with the HydroCAD model. The lowest outlet of the basin is the 8" diameter orifice at elevation 214.50'. The storage provided by the basin at elevation 214.50' is 7,285 cf, not the 21,743 cf indicated by the Applicant.

AE&A Response (4/4/24): Stage storage tables have been added to the report and the HydroCAD elevations match the site plan drawings.

EP Response (4/19/24): Item closed.

12. Standard 5: Land use with higher potential pollutant loads (LUHPPL)

The proposed project is not considered a LUHPPL and therefore Standard 5 does not apply.

AE&A Response (4/4/24): No response required.

EP Response (4/19/24): Item closed.

13. Standard 6: Critical areas

The project site does not discharge to or near a critical area and therefore Standard 6 does not apply.

AE&A Response (4/4/24): No response required.

EP Response (4/19/24): Item closed.

14. Standard 7: Redevelopment

The project is a new development project and therefore subject to full compliance with the Stormwater Management Standards.

AE&A Response (4/4/24): No response required.

EP Response (4/19/24): Item closed.

15. Standard 8: Construction period pollution prevention and erosion and sedimentation control

- a. The proposed project will disturb greater than one (1) acre of land and discharge into a municipal system and is therefore subject to the filing of a National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit. A draft SWPPP has not been provided at this time. We recommend the Planning Board require the final SWPPP be submitted for review and approval prior to the commencement of construction.

AE&A Response (4/4/24): The Applicant acknowledges the need to obtain coverage under the National Pollutant Discharge Elimination System Construction General Permit. A draft SWPPP is provided at this time per comment number 22 below. The final SWPPP will be provided to the Board when submitted to the EPA.

EP Response (4/19/24): Item closed.

- b. The Massachusetts Stormwater Handbook indicates that BMPs used during construction to address erosion and sedimentation must be different from the BMPs that will be used to handle stormwater after construction is completed. This protects post-construction stormwater BMPs from experiencing the high concentrations of sediment typically found in construction runoff. Sheet C-4 indicates that the proposed Detention and Infiltration Basin is proposed to be used as a temporary sedimentation basin during construction. Consistent with the Massachusetts Stormwater Handbook, we do not recommend proposed infiltration basins be used as sedimentation basins during construction. The collection of sediment in the sediment basin could inhibit infiltration in this area.

AE&A Response (4/4/24): There is no other viable area available for use as temporary sedimentation trap for all phases of construction, including placement of pavement base and binder course paving. AEA proposes to utilize the basin area, however, the bottom of the basin will only be excavated to an elevation 2-feet higher than the final bottom elevation. This will allow the area to serve as a temporary sediment trap without inhibiting the infiltration characteristics of the native soils. When the site is 90% stabilized with loam and seed and impervious surfaces, the accumulated sediment will be removed and the final two-feet of excavation will be performed. Notes have been added to Sheet C-4, C-6, and C-11 to reflect this approach.

EP Response (4/19/24): We recommend conforming to the Massachusetts Stormwater Handbook; however, if the contractor uses the strategy explained above, we recommend infiltration testing be performed in the location of the stormwater BMP after the final two feet of excavation occurs. EP also recommends that construction techniques that diminish the infiltration capacity of the soils underlying the proposed stormwater BMPs be avoided. Compaction and siltation of the BMPs during construction should be prohibited.

16. Standard 9: Operation and maintenance plan (O&M plan)

The Drainage Analysis contains a Long-term Operation & Maintenance Plan consistent with the requirements of Standard 9.

AE&A Response (4/4/24): No response required.

EP Response (4/19/24): Item closed.

17. Standard 10: Prohibition of illicit discharges

A signed illicit discharge statement is provided in the Drainage Analysis.

AE&A Response (4/4/24): No response required.

EP Response (4/19/24): Item closed.

Bellingham Subdivision Regulations (§ 245-13 Stormwater Management)

18. Per § 245-13. A. (2), detention facilities should be based on a 100-year storm. As stated above in Comment 9d, the peak surface elevation of the 100-year storm in the Cultec System is 230.73'. This is higher than the upstream catch basins (rim at 230.50') as well as the top of stone in the system. We recommend increasing the storage capacity of the Cultec System such that there is no surface ponding during the 100-year storm.

AE&A Response (4/4/24): Stage storage tables for the re-sized basins have been added to the drainage report. The catch basin is now well above the peak water elevation in the Cultec system.

EP Response (4/19/24): Item closed.

19. Per § 245-13. B. (1), all drains shall have a minimum of three-foot cover, except where reinforced concrete pipe is used. However, Per § 245-13. C. (5), depth of cover over ADS pipes must be two feet. Some of the proposed pipes have less than two feet of cover.

AE&A Response (4/4/24): The drainage conveyance system has been revised to provide 3 feet of cover where possible. In some cases the cover is less than 4 feet, but greater than 2 feet. In such cases RCP pipe has been specified.

EP Response (4/19/24): Item closed.

20. Per § 245-13. D. (2) (a), detention basin depth shall not exceed five feet. The Detention and Infiltration Basin is approximately 9.5' from bed to top of berm.

AE&A Response (4/4/24): Basin "depth" typically refers to the ponding depth versus depth from the bed to the top of the berm. The basin has been modified to reduce the ponding depth to 4.6 feet (bed to spillway), and 5.6 feet (bed to berm). This change has resulted in a slightly larger detention and infiltration system beneath the paved area.

EP Response (4/19/24): Item closed.

21. Per § 245-13. D. (2) (f), The basin side slopes and bottom shall be provided with four inches of loam, seeded at the rate of two pounds Red Top, 15 pounds Creeping Red Fescue and 20 pounds Tall Fescue per acre. The construction detail of the basin in the Site Plans is not consistent with this requirement.

AE&A Response (4/4/24): Notes have been revised on the Landscaping Plan (Sheet C-8) and construction detail (Sheet C-11) accordingly.

EP Response (4/19/24): Item closed.

[Bellingham Planning Board Procedural Rules \(§ 7.0 Post Construction Stormwater Management Plan for New Development and Redevelopments\)](#)

22. Per § 7.8.1, the Applicant is required to submit a complete copy of the SWPPP (including the signed Notice of Intent and approval letter). EP has not received a draft SWPPP at this time.

AE&A Response (4/4/24): A draft SWPPP is provided at this time. Please note that the final SWPPP is not filed with EPA until after all local approvals are obtained (but prior to construction). For this reason, the signed Notice of Intent and approval letter will be furnished upon receipt as referenced in comment number 15a. above.

EP Response (4/19/24): Item closed. We recommend the Board consider requiring a copy of the Final SWPPP be submitted to the Town when it is completed.

23. Per § 7.8.1 (J), a narrative of the construction sequence/phasing of the project, including both operation and maintenance for structural and non-structural measures, interim grading, and material stockpiling areas is required. EP has not received a construction sequence narrative.

AE&A Response (4/4/24): Section 7.8.1. states that the SWPPP shall be considered equivalent to the Erosion and Sedimentation Control Plan described in Section 7.8.1. Notwithstanding, we have added a brief construction sequencing/phasing narrative to Sheet C-4, Erosion Control Plan.

EP Response (4/19/24): Item closed.

24. Per § 7.8.1 (N), a description of provisions for phasing a project is required where 40,000 square feet of contiguous area or greater is to be disturbed. The project proposes to disturb more than 40,000 square feet of area, and we have not received a description of phased construction.

AE&A Response (4/4/24): Please refer to comment number 23 above.

EP Response (4/19/24): As stated, the Applicant has provided a construction sequence to Sheet C-4. If construction is intended to occur in discrete phases (due to the size of the project), we recommend the Applicant provide a phasing plan in conformity with the preferences of the Board.

Bellingham Wetland Regulations (§ 247-33 Stormwater Compliance)

25. Per § 247-33 (B) (9), there shall be no increase in runoff volume from a development for up to the 25-year storm. In the "Summary of Hydrology" section of the Drainage Analysis, the Applicant incorrectly swapped existing and proposed volumes of stormwater runoff for the 25-year and 100-year storm events. Per the HydroCAD results, the proposed volumes of runoff from the 25- and 100-year storms exceed the existing volumes.

AE&A Response (4/4/24): Although the project is not subject to the Bellingham Wetland Regulations, the comment remains valid and we have made the corrections accordingly.

EP Response (4/19/24): Item closed.

General Comments

26. We recommend that local public safety officials review the emergency access road on the south of the proposed building. If this road is intended to provide access for a fire truck, we are concerned that an internal radius of 15' may be too restrictive. We recommend the applicant provide a truck turning plan demonstrating emergency vehicles can make this turn.

AE&A Response (4/4/24): The reviewer is correct regarding the 15-foot radius, which has been increased to 25 feet. The opposing curb radius was also decreased to allow the truck to nose further into the curve. The turning movements for emergency vehicles have been furnished and reviewed by the Bellingham Fire Department, who has issued separate correspondence to the Planning Board.

EP Response (4/19/24): Acknowledged; we recommend the Applicant revise the plans as directed by the Bellingham Fire Department.

27. We recommend providing grate sizing calculations for the catch basins in the northeast corner of the parking lot, since these catch basins capture a significant area of stormwater runoff.

AE&A Response (4/4/24): AEA has revised these 2 catch basins to both have double grates to allow for the higher flow storms.

EP Response (4/19/24): Item closed.

Additional Comment 5/2/24

28. Consistent with comment 15b above regarding protecting the infiltrative capability of the stormwater basin, the applicant and contractor should make every effort to protect the infiltrative capacity of the culvert chamber system located to the rear of the proposed building. The contractor should make every effort to limit compaction of soils below this system. We acknowledge this could be difficult given the size of the system and proximity to the warehouse building. However, if soils below this system are compacted, the infiltration rates used in the calculations may not be accomplished.

Our review is based on the information that has been provided. As noted above, additional review will be required to verify comments that have been incorporated into the revised submission.

We appreciate the opportunity to be able to assist you with this important project. Please feel free to contact me at (617) 595-5180 or sdt@envpartners.com with any questions or comments.

Very Truly Yours,



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