

# JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885  
603.772.4746 - JonesandBeach.com

March 25, 2021

Barrington Planning Board  
Attn: James Jennison  
PO Box 660  
Barrington, NH 03825

**RE: Response Letter – DuBois & King Comments  
Proposed Warehouse Building  
7 Tolend Road, Barrington, NH  
Tax Map 220, Lot 50  
JBE Project No. 20656.1**

RECEIVED  
MAR 29 2021  
LAND USE OFFICE

Dear Mr. Jennison,

Jones & Beach Engineers, Inc. has received comments from DuBois & King for the above-mentioned property dated March 23, 2021. Review comments are listed below with our responses in bold.

*1. Sheet 4 of 11. Drawing C2. Two of the three proposed infiltration drip edges are shown adjacent to the gravel drive. We recommend that the applicant revise the proposed location of the infiltration drip edges so that there is a minimum of a 25' vegetated turf buffer between the drives and parking lots as recommended in the NH Stormwater Manual Volume 2.*

**RESPONSE: The infiltration drip edge is for roof runoff and is not accepting runoff from the parking areas or driveways, therefore a 25' vegetated filter strip as depicted in the NH Stormwater Manual is not necessary.**

*2. Sheet 5 of 11. Drawing C3. We recommend that the applicant show the proposed location of temporary erosion control measures for the excavations for the relocation of the underground storage tank and the underground electrical line.*

**RESPONSE: Additional silt fence has been added in these areas.**

*3. Sheet 8 of 11. Drawing D1. Drip Edge Infiltration Detail. We recommend that the applicant revises the Drip Edge Infiltration Detail to meet the requirements of in the NH Stormwater Manual Volume 2, including the installation of an observation well.*

**RESPONSE: The Drip Edge Infiltration Detail has been revised to meet the requirements of the NH Stormwater Manual, and the proposed observation well locations have been added to Sheet C3.**

*4. Sheet 11 of 11. Drawing E1. We recommend that the applicant add a detail for erosion control matting. Additionally, we recommend that the applicant revise the plans show the locations of the proposed matting.*

**RESPONSE: A detail for erosion control matting has been added to the plans, however the building side slope has been changed from 2:1 to 3:1 so it may not be necessary.**

5. *Drainage Analysis.* The 2' wide drip edges are centered at the limit of the roof overhangs (assuming the overhangs extend 12" horizontally from the edge of the building, as scaled from the elevations). It appears that half of the surface of the drip edge infiltration trenches will not accept roof runoff. During large storm events, stormwater may flow off of the roof and miss the drip edge entirely. We recommend either the applicant confirm that the 2' wide drip edge is adequate, and provide calculations that show that the 50-year storm event runoff from the 5V:12H roof will land into the infiltration trench.

**RESPONSE:** The drip edges have been widened. The drip edge in the rear of the building is to be 4' wide, and the drip edge in the front of the building is to extend all the way to the existing gravel driveway (see response to comment #12). They should now accept roof runoff in larger storm events.

6. *Drainage Analysis.* The drainage analysis does not appear to account for the roof overhangs in the impervious area calculation. We recommend that the applicant revise the analysis to account for the roof overhangs.

**RESPONSE:** The drainage analysis has been revised to account for the roof overhangs.

7. *Drainage Analysis.* The hydrocad modeling methodology utilizes exfiltration along both of the sides and the bottom of the drip edge infiltration trenches. This is not consistent with the proposed plans which show drip edges located adjacent to the building foundations. We recommend the applicant revises the hydrocad modeling to limit infiltration to the horizontal area of the proposed infiltration trenches, and not the sides, to better reflect proposed conditions.

**RESPONSE:** The HydroCad model has been revised to limit infiltration to the horizontal area of the proposed infiltration trenches.

8. *Drainage Analysis.* The trench detail also notes the trench will be placed within "open-graded" sides and bottom, but does not specify the material. The proposed storage building appears to be located on 4' of fill. We recommend the applicant provide the material specifications for the backfill and its infiltration properties, and utilize this infiltration rate within the calculation instead of the site's soil infiltration rate.

**RESPONSE:** Backfill will be similar to on-site native soils as called out on the Drip Edge Infiltration Detail, so the same infiltration rate applies.

9. *Drainage Analysis.* No test pits were performed within the footprint of the proposed infiltration drip edges. We recommend that the applicant provide test pit information within the vicinity of the proposed trenches to measure the estimated seasonal high-water table, and to verify the design infiltration rates. The number of test pits should meet the recommended frequency defined in the NH Stormwater Manual Volume 2, Table 2-2.

**RESPONSE:** The septic design references a SHWT of 18" which is being used for design.

10. *Drainage Analysis.* We recommend that the applicant provide supporting documentation for each of the design infiltration rates used in the model.

**RESPONSE:** The Saturated Hydraulic Conductivity printout from NRCS Web Soil Survey indicates that Deerfield loamy fine sand has a Ksat of 100 micrometers per second, which is equal to 14.17 inches per hour in U.S. customary units; 7.08 in/hr after applying a factor of safety of two. This infiltration rate is being used in the revised calculations.

RECEIVED

MAR 29 2021

LAND USE OFFICE

JONES & BEACH  
ENGINEERS INC.

11. *Drainage Analysis. The USGS map provided in the analysis appears to be pointing to the wrong location for the site (south of Tolend Road instead of north of Tolend Road). We recommend the applicant revise the USGS map to indicate the correct site location.*

**RESPONSE: A revised USGS map is provided in the drainage analysis.**

12. *Drainage Analysis. The applicant is proposing new impervious gravel surface area which connects the existing driveway to the proposed storage building. We recommend the applicant provide water quality treatment facilities (pretreatment and treatment) that meet the requirements of NHDES standards (AOT) in accordance with Town of Barrington Site Plan Review Regulations Section 4.7.2(10).*

**RESPONSE: Impervious gravel is no longer proposed. Instead, the stone drip edges are proposed to extend directly to the existing gravel driveways.**

13. *Drainage Analysis. We recommend that the applicant provide an inspection and maintenance (I&M) plan for the proposed stormwater devices.*

**RESPONSE: An Inspection & Maintenance Plan (I&M) for the proposed stormwater devices is included in the revised drainage analysis.**

The following items are submitted along with this letter:

1. Three (3) Full Size Plans.
2. Twelve (12) Reduced Size (11" x 17") Plans.
3. Two (2) Drainage Analysis.

Thank you very much for your time. If you have any questions, or need further assistance, please contact our office.

Very truly yours,  
JONES & BEACH ENGINEERS, INC.



Daniel Meditz, E.I.T.  
Project Engineer

cc: Roy Hurlbert, PEH & Son, LLC (letter and plans via email)  
Jeff Adler (Letter, Drainage Analysis & plans via email & U.S. Mail)

RECEIVED

MAR 29 2021

LAND USE OFFICE