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November 11, 2024

Board of Adjustment
Township of Verona
600 Bloomfield Avenue
Verona, New Jersey 07044

Attention: Ms. Caitlin Kester, Zoning Board Secretary

Re: Peter Malanga
Board of Adjustment Application – In-ground Pool and Patio
45 Woodland Avenue
Block 905, Lot 13
Township of Verona
Our File No. VAES-192

Dear Board Members:

We have reviewed the stormwater plans and calculations for 45 Woodland Avenue prepared by Paul Gdanski, PE, PLLC, dated November 4, 2023. We offer the following comments:

1. The Applicant proposes to direct runoff from the proposed patio using a French drain system into an underground infiltration system consisting of four (4) CULTEC 330XLHD units. This system is best described as a dry well system. The applicant is advised that Section 150-25.7 A Table 7 allows for the use of a dry well as a minor development BMP only in the case that "other listed methods cannot feasibly meet the requirements of this section". The applicant's engineer should review the other options listed in this table, and if the engineer believes that the dry well is the only feasible means of stormwater management, he or she should provide an explanation. Otherwise, one of the other BMPs must be utilized and the plans and calculations must be revised. The following comments are applicable should the dry well system be retained:

    a. The calculations of storage provided by the four (4) CULTEC 330XLHD units are listed in the drainage calculation as 103.7CF per unit including the 6" stone bedding. However, upon review of literature available from the manufacturer, each unit provides 52.21CF per unit. Given the dimensions of the unit are 4.33' by 8.5', 6" of stone provides a storage of approximately 7.3CF per unit. The applicant's engineer should either provide further information on how the storage of 103.7CF per unit was obtained or revise the number of units and plans to meet management requirements.
    b. The filter fabric shall be installed on the top and sides of the drainage system only.
    c. The CULTEC system detail states that inlet pipe design and elevation is to be determined by engineer. This information shall be provided on plan.

2. Percolation tests must be performed prior to installation of the drainage system to ensure the system drains adequately per NJDEP BMP Manual Chapter 12. The Township should be contacted when a test is scheduled, and the results should be forwarded to our office. The test should show that:

- The system lies above the seasonal high-water table. The minimum distance required between the basin bottom and seasonal high-water table is 2 feet.
- The soil is sufficiently permeable to drain the system free of water within a 72-hour period.

3. Per Section 150-25.7 A(7), "The stormwater management feature shall be protected from future development by conservation easement, deed restriction, or other acceptable legal measures."

4. Our office is required to inspect the construction of the drainage improvements. All inspection requests shall be made at least 48 hours prior to the required inspection.

5. The property owner is responsible for maintenance of the stormwater management facilities. All stormwater management facilities are recommended to be inspected annually.

6. The final grading of the lot must ensure additional surface runoff does not adversely impact any adjoining properties. Any required modifications shall be the property owner's responsibility, in coordination with their engineer.

The applicant is to submit revised drainage calculations addressing these comments.

Thank you for your kind attention to this matter. Should you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,

Peter C. Ten Kate, P.E.

PCTK/rs
Cc: Kathleen Miesch – via email
Marisa Tiberi P.E. – via email
Michael Caggiano P.E. – via email
Sarfeen Tanweer – via email
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