

November 26, 2024
Revised January 8, 2025

Via E-mail (jvite@westorange.org)

Planning Board
Township of West Orange
66 Main Street
West Orange, New Jersey 07052

Attn.: Jamilet Baquerizo Vite – Planning Board Secretary

**RE: ENGINEERING REVIEW FOR THE WAY MAKER, LLC, INGROUND POOL AND POOL BUILDING
WEST ORANGE PLANNING BOARD APPLICATION No. PB 24-19
40 EAGLE RIDGE WAY (BLOCK 106, LOT 20.03)
TOWNSHIP OF WEST ORANGE, ESSEX COUNTY, NEW JERSEY
MATRIX No. 23-1345-08**

Ms. Vite,

As requested, Matrix New World Engineering, Land Surveying and Landscape Architecture, PC (Matrix) has reviewed the Planning Board application and supporting documentation for the above-referenced site. Matrix has prepared a technical engineering review of the proposed improvements at the subject. It shall be noted that our review of the project is limited to site / civil engineering only. Matrix defers all planning matters, including but not limited to, bulk and/or use variances, conformance with the master plan and ordinances, etc.

As provided by your office, Matrix has received and reviewed the following documents for this project:

- 40 Eagle Ridge Way Public Utilities List;
- Property Buffer Report (200-foot owner list) for Block 106, Lot 20.03, prepared by the Office of the Tax Assessor, Township of West Orange, dated August 20, 2024;
- Proof of Payment for Major Site Plan Application Fee from Bittiger Elias and Triola, PC, dated September 18, 2024;
- Township of West Orange Application Form for Planning Board or Zoning Board of Adjustment, dated September 18, 2024;
- Letter of Explanation prepared by Priscilla J. Triolo, Esq., dated September 18, 2024;
- Letter of Transmittal Prepared by Priscilla J. Triolo, Esq, dated September 18, 2024;
- Verification of Taxes and Sewer Charges Paid, Block 106, Lot 20.03, 40 Eagle Ridge Way, prepared by the Office of the Tax Collector, dated August 20, 2024;
- Unsigned and Unsealed Stormwater Management Report, Block 106, Lot 20.03, prepared by Colliers Engineering & Design, Inc., dated September 16, 2024;
- Signed but unsealed property survey drawing for Block 106, Lot 20.03, entitled "Topographic Survey," prepared by Roberts Engineering Group, LLC, dated February 10, 2021;

- Signed but unsealed property survey drawing for Block 106, Lot 20.02, entitled “Boundary and Topographic Survey”, prepared by Omland and Osterkorn, Inc., dated May 22, 2024; and
- Signed but unsealed set of engineering drawings, prepared by Colliers Engineering & Design, Inc., dated September 17, 2024, including the following sheets:
 - Cover Sheet (Sheet 1)
 - Demolition Plan (Sheet 2)
 - Layout Plan (Sheet 3)
 - Grading and Drainage Plan (Sheet 4)
 - Landscape Plan (Sheet 5)
 - Soil Erosion & Sediment Control Plan (Sheet 6)
 - Construction Details -1 (Sheet 7)
 - Construction Details – 2 (Sheet 8)

PROJECT DESCRIPTION

Matrix understands that the Owner and Applicant for this application is TheWayMaker, LLC, mailing address: 40 Eagle Ridge Way, West Orange, New Jersey. As per the Township's Zoning Map (last revised 2020), the subject parcel (Block 106, Lot 20.03) is located in the 'R-1' (Residential, 80,000 square foot minimum area) zoning district along Eagle Ridge Way, approximately 200 feet from the intersection of Eagle Ridge Way and Boland Drive. The subject property is approximately 2.067 acres and is presently developed with a single-family house with an attached garage, a pool house that is under construction, and an inground pool that is under construction. Also under construction are drainage collection, conveyance and storage facilities and a retaining wall. Below is a summary of the proposed property improvements:

Approximately 1.88 acres of the subject property either has or will be disturbed to accommodate the pool building and inground pool which are under construction and the drainage facilities, some which have been constructed and others to be constructed as part of this application. Since more than one acre of land is being disturbed for these improvements, this application is considered a Major Site Plan under the Township's Storm Water Management regulations. As stated, the pool building and inground pool are under construction. When the original plans were submitted, less than one acre was being disturbed and thus the improvements were not considered a Major Site Plan. However, during construction it was determined that more than an acre was disturbed and work stopped pending approval of the Planning Board. That disturbance that exceeded one acre also included disturbing lands on adjacent 42 Eagle Ridge Way which is owned by the same party. The submitted plan must also address the drainage impacts of that disturbance since they are associated with this plan. Those impacts cannot be deferred to an application associated with the parcel at no. 42. The pool building and inground pool are considered accessory uses. The engineering drawings do not depict any trees to be removed as any trees disturbed by the construction were previously removed and a permit was issued by the Township Forester. The applicant submitted a Landscape Plan that depicts new proposed plantings.

1. General

- 1.1. Architectural drawings were not provided as part of the submission materials for the pool building and pool. As such, we are unable to ensure that the proposed building complies with the residential building design criteria specified in Ordinance §25-9.7(b). The Applicant shall provide architectural drawings for further review. However, permits were already issued for these two uses.

2. Demolition

- 2.1. The Applicant shall provide testimony regarding the intention to remove any additional trees and obtaining a Tree Removal Permit pursuant to Ordinance §25-27.

3. Layout Plan

- 3.1. The Applicant shall provide testimony regarding the existing site conditions, proposed improvements, and conformance with applicable ordinances and regulations.
- 3.2. Steep slope calculations are required as per Section 25-28 of the Land Use Regulations. The plan shall comply with the provisions of the Ordinance.
- 3.3. A boulder wall that is over ten feet in height was constructed along the rear property line. No permit was issued for this wall and since it is over six feet in height, the wall violates Ordinance 25-8.4a. A violation notice was issued. To bring the wall into compliance with the Ordinance, the plan proposes to place fill material along the face of the wall. However, a construction detail of this wall is required and since the original wall exceeded four feet, a building permit must also be obtained. Details of the retaining wall are not depicted in the Plans on Sheets 3, 6 and 7 of 8. A global stability analysis with supporting calculations shall be submitted by the Engineer to ensure that the wall can sustain the proposed wall loading. The wall will need to be inspected and certified.
- 3.4. The Engineer shall prepare a plan superimposing existing and proposed contours in color to clearly show the differences between the two sets of contours including elevations at the proposed walls.
- 3.5. Soil movement calculations within the limit of Disturbance shall be provided by the Engineer.

4. Grading & Drainage Plan

- 4.1. The Applicant's engineer shall provide details of the previously installed drywell system/seepage tank field.
- 4.2. The Applicant's engineer shall provide clarify how stormwater runoff will discharge from the existing drywell system/seepage tank field. If there is an outflow pipe connecting to an off-site system, it shall be detailed on the plans and noted in the stormwater management report.
- 4.3. The Applicant's engineer shall explain the purpose of removing the portion of the 36" elliptical pipe and the addition of the proposed single chamber outlet control structure and scour hole at the southwest corner of the property. This change in the drainage system shall also be addressed in the stormwater management report.
- 4.4. The Applicant's engineer shall provide results of a geotechnical investigation to ensure the infiltration system meets the requirements of Chapter 12 of the NJ Stormwater Best Management Practices (BMP) Manual. Verification of the depth of bedrock and seasonal high-water table shall be submitted to the Municipal Engineer and confirmed prior to the issuance of a building permit. Test pits shall be made in accordance with NJDEP BMP manual and regulations for groundwater table location.
- 4.5. The Drainage Report needs to account for un-detained areas as the flow for these areas is not accounted for. Check page 9 page 11 and page 13 of the report as this un-detained area is approximately 0.06 acres.
- 4.6. The Time of Concentration calculations were not provided. They need to be depicted on the drainage area maps.
- 4.7. Drywell overflow pipe calculations are required for capacity and discharge as well as offsite stability (velocity) as per NJ Soil Erosion and Sediment Control Standards.
- 4.8. On page 52 of the Report, the Engineer shall check the rise and span of the elliptical pipe in the calculations as the survey states 36 inch elliptical. Also review the "n" value fo this pipe as well as its slope which appears to be 6.4 percent (0.064 and not 0.100).
- 4.9. On page 62 of the Report, the Engineer shall verify from the manufacturer of the pervious pavers that there is sufficient storage of 305 cubic feet.
- 4.10 On page 66 of the Report the Engineer shall indicate on the plans where this inlet with the orifice is located.

4.11 On page 70 of the Report the information on the drywell input into HydroCAD is not shown on the Plans or Survey.

4.12 On pages 70 and 74 of the Report the Engineer shall establish where the conductivity to groundwater elevations of 603.00 and 619.00 respectively come from.

4.13 On page 75 of the 4 Report the Engineer shall provide documentation from the manufacturer of the storage chambers that the storage volume is 45.9 cubic feet per chamber.

4.14 On page 281 of the Report there is a discrepancy with the areas as per comment 4.5 above. The Engineer must address this.

4.15 On page 285 of the Report the time of concentration calculations shall be provided by the Engineer and they need to be accounted for and shown in the drainage maps. See comment 4.6 above.

4.16 On Sheet 4 of 8 of the Plans inverts in and out of the various drainage components such as cleanouts, discharge pipes from chambers, control outlet structure and drywells shall be provided by the Engineer.

4.17 On Sheet 7 of 8 of the Plans the Engineer shall review elevations of structures and pipe sizes and inverts for consistency with the sheets that show the project in plan view. The Engineer shall provide a detail of a trash rack at the entry point of the outlet structure and also provide a top elevation of the grate.

Landscaping Plan

5.1 Matrix has no comment on the landscaping plan.

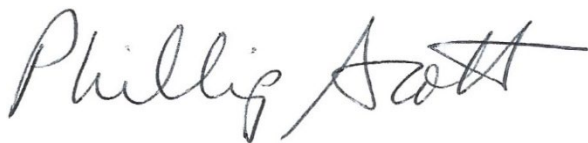
5. Soil Erosion & Sediment Control

5.1. The Applicant shall obtain a soil erosion and sediment control permit from the Hudson-Essex-Passaic Soil Conservation District. Matrix reserves the right to review the certification and approved plans from the district.

We thank you for the opportunity to be of service to the Township of West Orange Planning Board. Please feel free to contact me directly with any questions or comments at (973) 295-3279 or via e-mail at pscott@mnwe.com.

Sincerely,

MATRIX NEW WORLD ENGINEERING



Phillip Scott, P.E., C.M.E.
Director of Urban Engineering and Development

LL:PS
Enclosures

Cc: Dennis Petrocelli, PG – Vice President, Matrix

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