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MEMORANDUM

To: *Chairman and Members of the
West Orange Zoning Board*

From: *John J. Hess, PE, PP, CME
Zoning Board Engineer*

Date: *December 13, 2023
March 13, 2024 CORRECTED*

Re: *Application No. ZB-23-11
Jose De Oliveira
Bulk Variance - Review #1
31 Bradford Avenue
Block 55.06, Lot 1.01
Our File: VWRZ0055.01*

CC: *Paul Grygiel, PP, AICP - Township Planner
Zayibeth Carballo, PE, PLS, PP, Ass't Municipal Engineer
Steven K. Warner, Esq. - Zoning Board Attorney
Jose De Oliveira - Applicant
Joseph P. Dell'Italia, Esq. - Applicant's Attorney
Mirza Baig, PE - Applicant's Engineer
Daniel E. Parker, PLS - Applicant's Surveyor*

Our office has received for review the following documents which were submitted in support of the above referenced application for Preliminary & Final Site Plan approval with 'C' and 'D' Variances:

- A set of unsigned plans (2 sheets) entitled "Block Retaining Wall with Geogrid" prepared by KSI Engineering, PC of Jersey City, New Jersey dated August 14, 2023.
- A print of a Survey of Property (1 sheet) prepared by Daniel E. Parker, PLS with Parker Engineering & Surveying PC of Somerville, New Jersey dated April 19, 2023.
- A completed Application Form.
- A statement entitled "Proposal" which describes the work that is proposed, the reasons for the proposed work and the variance that is required for the proposed work.
- A statement entitled "Reasons for Relief" which sets forth the reasons why the requested variance should be granted.
- A Verification of Taxes & Sewer Charges Paid from the Office of the Tax Collector dated September 21, 2023 which states that the taxes on Block 55.06, Lot 1.01 are paid until October 31, 2023 and the 2023 sewer charges are paid in full.



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- A Buffer Report which lists the owners of property within 200 ft of Block 55.06, Lot 1.01 prepared by the Office of the Assessor dated September 20, 2023.
- A set of 9 photographs which show pre-construction and post-construction photographs of the retaining wall.

We have reviewed the information submitted in support of this application and offer the following comments:

A. PROJECT DESCRIPTION

The property in question is a nearly rectangular tract located on the northeast corner of the intersection of Northfield Avenue and Bradford Terrace. It has an area of 10,995.93 sf or approximately 0.252 acres and is located in the R-5 Zoning District. The property in question is currently occupied by a 2-story single family residential dwelling. Retaining walls currently exist on the northerly and easterly sides of the property.

It is our understanding that the Applicant recently replaced the existing retaining walls on the northerly and easterly sides of the property. The Applicant is now seeking variance approval to allow the new retaining walls, which exceed 6 ft in height, to remain.

B. DESIGN COMMENTS

1. The Block Retaining Wall with Geogrid plans are unsigned and unsealed. Therefore, the Applicant must submit signed and sealed plans to the Board.
2. Sheet C01 of the plans must be revised to show the proposed setbacks from the retaining walls to the property lines.
3. It shows on sheet C01 that the lower retaining wall encroaches onto adjoining lot 2.01, block 55.06. The applicant should address the Board regarding whether they have obtained an easement from the adjoining property owner to allow this encroachment.
4. The plans should be revised to show the top of retaining wall and bottom of retaining elevations every 25 ft. We note that Section 25-8.4 of the Township Code stipulates that solid walls not higher than 6 ft are permitted in the rear yard and on the side property line up to the rear line of the Applicant's house.
5. It shows on sheet C-01 that an upper retaining wall and a lower retaining wall are proposed along the common property line with adjoining lot 2.01. The plans should be revised to provide an elevation view of the retaining walls along this property line.
6. It shows on the Northeast Wall Elevation on sheet C-01 that the northeast retaining wall will have a maximum height of approximately 12'-6". We note that the Property Survey shows that the existing wall had a maximum height of 9'-6". The Applicant should address the Board to clarify why the new wall is so much higher than the existing wall.



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7. It shows on the Northeast Wall Elevation that the upper retaining wall will have a height of 6'-8" and the lower retaining wall will have a height of 5'-8".
8. Construction Note #1 on sheet C-01 lists the soil parameters that were used in the design of the retaining walls. In addition, Retaining Wall General Note #2 states that KSI Engineering PC has not verified these design conditions, and if required the soil parameters should be confirmed by the site geotechnical engineer or others prior to wall construction. Therefore, the Applicant should address the Board regarding their plans to have a geotechnical confirm the site parameters prior to construction.
9. Construction Note #5 states that hydrostatic loading is not considered in tie analysis. Sufficient drainage must be provided such that the hydrostatic loading (poor pressure) does not develop in the reinforced zone. The plans should be revised to show the required drainage system. In addition, the Applicant must demonstrate to the Board that the drainage discharge will not negatively impact the adjoining properties.
10. Construction Note #10 states that a qualified engineer or technician shall supervise the wall construction to verify field and site soil conditions. The Applicant should address the Board regarding their plans to comply with this recommendation.
11. Construction Note #12 states that the site grading shall be designed to route surface water around and away from the wall. Therefore, the plans must be revised to show the proposed grading at the site.
12. Sheet C-02 includes a Geogrid Design Chart which sets for the geogrid requirements for various wall heights. We note that the maximum wall height shown on the chart is 11.0 ft whereas the plans show that the northeast retaining wall will have a maximum height of approximately 12'-6". This discrepancy must be resolved.
13. Due to the proposed retaining wall heights, the Applicant should address the Board regarding their plans to install a safety fence along the top of the retaining walls.

The Applicant is hereby advised that any revised plans or other documents submitted to the Board should be accompanied by a cover letter which addresses each of the comments in this review letter and also details any other changes that have been made to the plans as these may not be readily apparent.