



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 248.63

February 25, 2019

Christopher Leswing, Director of Building and Planning
Township of Lower Merion
75 East Lancaster Avenue
Ardmore, PA 19003

**Re: Gladwyne Montessori School
Preliminary Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of twenty-one (21) plans dated 12-03-18, latest revision 02-15-19, and associated stormwater management calculations dated 12-03-18, latest revision 02-15-19, prepared by Site Engineering Concepts, LLC. We have also reviewed a Traffic Impact Study, dated 11-15-18, latest revision 01-25-19, prepared by F. Tavani and Associates, Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater**—Since there are principal buildings on this consolidated site that will be demolished, stormwater rate and volume controls have been provided considering the predevelopment ground cover condition as meadow for those lots where the structures are to be removed. Also, due to the site location in an established problem stormwater area, additional recharge volume and rate control above code minimums have also been provided as requested by our office. We had also requested additional grading and inlets to be designed in order to provide increased collection capacity and ensure the designed direction of drainage. This has also been provided with the present submission. Additional soil testing and certifications from a geotechnical engineer will be required to be provided at the time of basin installation in order to better ensure accuracy of the design parameters that were used and perform any field adjustments if/as required. As a result of the proposed stormwater management facilities and the other impervious and grading adjustments, there will be a significant improvement to the rate and volume of runoff leaving the site following completion of this development project.

B. ORDINANCE REQUIREMENTS

1. Section 101-6A(1)—All woody vegetation to be retained within twenty-five (25') feet of a building site or disturbed area shall be protected from equipment damage by fencing placed at the driplines. Accurate location of the driplines must be shown on the plan. Since all tree protection fence has not been shown at the driplines of all trees to remain, the Township Arborist must approve the location of the tree protection fence shown on the plan
2. Section 101-6A(5)—No impervious cover shall be permitted within the driplines of trees to remain without approval from the Township Arborist. The Township Arborist must approve the location and extent of the expanded parking area if the impacted trees are scheduled to remain.
3. Section 101-6A(6)—Grade changes around the driplines of trees to be retained shall be minimized. Impacted trees shall be clearly identified on the plan. Treatment of the impacted trees prior to construction to protect the root system shall be performed if/as directed by the Township Arborist. The Township Arborist must also approve the procedure.
4. Section 101-6A(8)—Should any trees not scheduled or permitted to be removed be irreparably damaged during construction and die within eighteen (18) months of the conclusion of construction activities, those trees will be required to be replaced in accordance with the provision of Section 101-9A(2). Escrow shall be posted to guarantee the survival of the impacted trees until the allotted time has expired.
5. Section 101-6B(2)—If trenches for service utilities or storm facilities are proposed within the driplines of trees, all disturbed roots must be cut as cleanly as possible. The trench must be backfilled as quickly as possible, avoiding compaction. Tree limbs must be cut back in proportion to the root area loss. This shall be noted on the plan and made a condition of any permit issuance.
6. Section 121-2C, Section 121-15 – The present submission provides and qualifies the proposed stormwater basins to be sized to recharge the 100 year direct runoff from all new roof areas. This shall be made a condition of approval for this development so that any further development does not reduce the designed volume that is provided with this development application.
7. Section 121-4B(2d)4- A minimum depth of twenty four (24") inches between the bottom of the seepage beds and the limiting zone must be provided. Per the recommendations in the percolation testing report, a geotechnical engineer shall be present for the installation of the beds. Certification from the geotechnical engineer shall be submitted that the limiting zones are at the required distance from the bottom of the basins. This shall be made a condition of permit issuance.
8. Section 121-4E(2c), 121-4E(2i)—Seepage beds shall be designed to empty the total design storm volume in twenty-four (24) hours or less. The applicant's geotechnical engineer must certify that the actual soil parameters encountered in the installation of the bed are consistent with those assumed in the calculations. Field adjustments to the design shall be

- made if/as required or as directed by the Township Engineer. This shall be a condition of permit issuance.
9. Section 121-4E(2L)—Seepage beds shall not receive runoff until the entire contributory area to the BMP has been stabilized. This note shall be clearly indicated on the plan and in the construction sequence
 10. Section 121-4E(4)—The description of how the permanent stormwater control facilities in Phase 1 and Phase 2 will be operated and maintained shall be submitted by the design engineer in recordable form as a covenant running with the land and must be approved by the Township Solicitor prior to recording.
 11. Section 121-4F(3), 121-15—Profiles must be provided for all sections of pipe with diameters of ten (10") inches or greater.
 12. Section 121-12—An NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permit.
 13. Section 121-15—The runoff crossing to the adjacent properties during the construction phase of the project shall be managed so that the water quality/quantity impact is minimized to the adjacent properties. Diversion berms, stoned construction staging areas, and inlets/piping shall be noted to be provided as required or as directed by the township so as to ensure acceptable conditions during the construction phase.
 14. Section 135-19B(8)—The actual sight distance triangles shall be shown for each driveway. It shall be demonstrated that the existing drives provide the minimum safe stopping distance required by PaDOT Publication Title 67, Chapter 441. Calculations shall be provided as necessary. It shall be noted what improvements are necessary to be performed to achieve minimum safe stopping distance. The Traffic Safety Unit of the Lower Merion Police Department must approve the final drive condition.
 15. Section 135-40—A Planning Module or Exemption must be approved by the City of Philadelphia and the DEP prior to recording the Final Plan.
 16. Section 135-19B(8) – There are two existing crosswalks over Youngs Ford Road on/near the school frontage. It is recommended that the handicap ramps be upgraded to ADA compliant designs. It is recommended that the pavement markings be re-furbished with high-visibility, durable materials in compliance with township standards. Finally, there is an existing flashing sign for the crosswalks. It is recommended in order to improve pedestrian safety, that the current sign be replaced with push-button activated rapid flashing beacons to be installed by the school. PaDOT review and approval for the flashing devices must be obtained. The Township shall be copied on all correspondence with PaDOT regarding the installation.
 17. Section 135-19B(8)- A post development evaluation of the studied signalized intersection shall be made. Signal timing optimization shall be performed if/as required/directed by the township. An examination of the drive operation and vehicle queues shall be made. Mitigation measures shall be implemented if directed by the township to reduce any

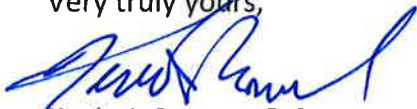
undesirable queueing in the roadway that is observed. Mitigation measures shall include such items as staggered start and dismissal times and increased staff assistance during drop-off/pick-up operations.

C. ENGINEERING COMMENTS

1. A certification by a civil engineer of the condition of any existing retaining walls in the project area to remain shall be provided. Any recommended improvements/repairs shall be made a condition of the permit issue.
2. The Lighting Plan must be approved by the Director of Building and Planning prior to recording the Final Plan.
3. The Planting Plan must be approved by the Planning Department and the Township Arborist prior to issuance of the permit/recording the Final Plan.
4. A copy of the revised plan shall be submitted with any changes highlighted. A letter shall also be provided with the revised plan indicating how each requested revision has been addressed in the re-submission.

Please advise if we may be of further assistance in this matter.

Very truly yours,



Kevin J. Bowers, P.E.

PENNONI ASSOCIATES

Township Engineer

Cc: Robert E. Duncan, Assistant Township Manager
Site Engineering Concepts, LLC
F. Tavani and Associates, Inc.
The Gladwyne Montessori School