



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 254.76

February 25, 2019

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

**Re: Bryn Mawr Presbyterian Church Improvements
Preliminary Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of ten (10) plans, dated 01-07-19, latest revision dated 02-14-19, prepared by Site Engineering Concepts, LLC. We have also reviewed a Traffic Impact Study, dated 11-30 18, prepared by F. Tavani and Associates, Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Traffic** – Additional vehicular control signage and pavement markings must be provided to better ensure the orderly movement of traffic. Concrete aprons shall be provided at all driveways that are to be adjusted.
- ❖ **Stormwater** – The water quality seepage beds shall be increased in size to be able to recharge the direct volume of runoff from the two (2) year design storm. Sediment traps and all applicable storm conveyance line information must be provided on the plan. Calculations qualifying the piping designs for capacity must be submitted. In addition, the existing stormwater facility located in the parking area across Fishers Road must be verified to be in acceptable operation. The system shall be repaired/replaced if certification of proper operation cannot be provided.

With the resolution of the above major engineering issues and the remaining comments in this letter incorporated, we recommend that the Preliminary Plan be approved.

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. Tree protection shall be required for the construction lay-down/storage area off Montgomery Avenue if so directed by the Township Arborist. Since the 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 impervious surface 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 storm conveyance lines 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 permit issuance.
6. Section 121-4A(2)—Roof drains from the new addition shall be noted on the Construction Improvement Plan to be directly connected to the seepage bed where feasible. The material, size and slope of all lines must be indicated. The capacity of the design must be documented clearly in the calculations for all required design storms.
7. Section 121-4A(4)—The responsibility for the continued maintenance and operation of the water quality facilities shall be the obligation of the property owner. This note shall be clearly indicated on the plan.
8. Section 121-2C, 121-15—In order to provide required recharge and water quality, the seepage beds shall be increased in size sufficient to recharge the direct runoff from the new addition roof area and paving areas that are generated by the two (2) year storm. The calculations and final seepage bed dimensions shall be revised to reflect this requirement.
9. Section 121-4E(1b)—Discharge from the stormwater basin shall be converted from a concentrated flow to a sheet flow. The overflow from Basin B shall be piped to a level spreader or bubble-up spreader. A detail shall be added to the plans and the length of the spreader shall be dimensioned on the plan view. Calculations shall be provided qualifying the design proposed.

10. Section 121-15, Section 133-15D – The overflow from Basin A shall be connected into the storm sewer system in Fishers Road.
11. Section 121-4E(2f)—All seepage beds must contain a sediment trap accessible for maintenance. The present submission does not include a sediment trap for all stormwater directed to the basin.
12. 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
13. Section 121-4F(10)—Structures and/or cleanouts shall be used where abrupt changes are made in storm sewer alignment. This shall be noted on the plan and the locations of each shown clearly.
14. Section 121-5A(2)—The maximum time of exposure for bare soil areas shall be twenty (20) days before stabilization measures are implemented. This shall be clearly noted on the plan.
15. Section 121-6H—The size and species of trees on the property within twenty-five (25') feet of disturbance shall be included on the plan. Not all trees meeting this criterion have provided this information.
16. Section 121-6J—Additional detail is required in the sequence of construction activities. Notification of the Township Engineer shall be listed in the sequence following installation of protective barriers and prior to earth disturbance. The removal of trees and clearing for the construction shall be listed. The demolition of the existing structure and removal of impervious surfaces shall be listed. Notification of the Township Engineer for inspection shall be listed prior to installation of the porous walkways, seepage bed and conveyance piping. A notice of forty-eight (48) hours is required by the Township Engineer prior to earthmoving or other required inspection. No removal of erosion control measures can be done without the approval of the Township Engineer. This shall be clearly listed in the sequence.
17. Section 121-12—An NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permit if the total disturbance exceeds one acre.
18. 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.
19. Section 121-15, Section 135-19 – The existing underground seepage bed located in the parking area across Fishers Road shall be clearly shown on the plans. All piping shall be indicated. Certification of proper operation must be submitted prior to recording the Final

- Plan. The system shall be repaired/replaced as needed if it is found to be deficient or no certification is provided.
20. Section 135-17B(1)—The existing sanitary sewers shall be shown on the property frontage.
 21. Section 135-17B(1)—All existing utility service locations in the project area shall be shown from the main to the structures.
 22. Section 135-17B(6)—The error of closure shall be provided and shall not be greater than 1:5,000.
 23. Section 135-17B(13)—The existing storm sewers, inlets and any other manhole or other structure shall be shown within the project area and to the property limits or termination/outfall location. Invert, rim, and grate elevations shall be indicated. The size and material of all storm sewers shall be provided.
 24. Section 135-19B(2)—The location of any proposed utility services shall be provided from the structures to the mains.
 25. Section 135-19B(8)—The actual sight distance triangles shall be shown for each driveway. they shall demonstrate that the modified 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.
 26. Section 135-19B(8)—“Do-Not-Enter” signs and one-way pavement marking arrows shall be added to the exit aisles of the one-way driveways at Montgomery Avenue and at Fishers Road. One-way arrow pavement marking shall also be added at other areas of the parking aisles as required in order to better direct vehicular movement and provide more orderly movement of traffic through the parking areas.
 27. Section 135-19B(8)—Stop signs and Bars shall be added at the exit drive to Montgomery Avenue and at Fishers Road.
 28. Section 135-19B(8)—The proposed location of the addition and changes to the traffic circulation will create “dead-end” parking spaces on the north side of the building. An adequately sized turn-around area shall be created with pavement marking and signage for use by arriving vehicles when all parking spaces are occupied. Maneuverability diagrams shall be submitted demonstrating adequacy.
 29. Section 135-27L(2)—Driveways which exceed 200’ in length present difficulties in delivery of municipal and emergency services. The modified driveway from Montgomery Avenue shall therefore all be constructed to township standard section thickness design.
 30. Section 135-32—Concrete road control monuments shall be shown to be installed at the right-of-way at the intersection of each property line and at all changes in direction. Iron

pins or other survey monumentation shall be permitted if concrete monuments cannot be installed. Approval from the Township Engineer is required for the substitution.

31. 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.

C. ENGINEERING COMMENTS

1. A detail of the retaining wall shall be provided. Top and bottom of wall elevations shall be provided and the limits of the wall location shall be clearly shown. Calculations must be provided for wall heights exceeding four (4') feet.
2. A fill material and topsoil stockpile location shall be provided. Notes shall be added regarding stabilization of the stockpiles.
3. A certification by a civil engineer of the condition of any existing retaining walls to remain in the project area shall be provided. Any recommended improvements/repairs shall be made a condition of the permit issue.
4. A Lighting Plan must be submitted and approved by the Director of Building and Planning prior to recording the Final Plan.
5. The Planting Plan must be approved by the Planning Department and the Township Arborist prior to issuance of the permit/recording the Final Plan.
6. Inlets and other structures shall be numbered on the plan for reference.
7. A full reveal and depressed granite curb detail shall be provided.
8. Depressed granite curb and concrete apron shall be indicated at all driveway access locations where work on the drives is proposed. The length of depressed curb shall be dimensioned on the plan.
9. Details of the concrete apron and sidewalk shall be provided. Details must conform to township standards.
10. The sidewalks across all drives associated with the proposed improvements shall be noted to be carried across the drive at grade. The notes on the plan referring to installation of ADA ramps at the drives shall be removed.
11. All stair risers, treads, landings and railings shall be noted to comply with Township building code requirements.
12. Dimensions shall be added to all hardscape areas on the plan in order to clearly define the limits of each.

13. The 422' elevation contour shall be shown in the paved area in front of the Ministry Center link.
14. The seepage beds shall be designed with separate distribution and collection pipe systems. They shall not be connected together as presently shown on the details.
15. The porous paving specification shall be submitted for review and must be approved for use by the Township Engineer. The recharge stone shall be noted to be AASHTO No. 3 stone or equal.
16. Notes shall be added to the requested full reveal and depressed granite curb detail that include the following:
 - The depressed curb height for the driveway shall be ¼ inch for each inch of existing curb reveal
 - Any curb replacement must meet existing curb reveal height.
 - One foot cut back is needed in the street area where any curb is adjusted and/or replaced. All joints must be sealed.
 - An additional concrete support is needed mid-span of each section of depressed curb in the driveway area
17. 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.
Bryn Mawr Presbyterian Church