



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 254.55

October 26, 2018

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

**Re: Bryn Mawr College
Wellness Center
Tentative Sketch Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of Seven (7) plans dated 07-13-18, latest revision dated 09-13-18, prepared by Site Engineering Concepts, LLC. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater**— Proposed drainage patterns have not been clearly indicated. Areas to be controlled and those to be left uncontrolled have not been fully identified. Also, no area for temporary stormwater control has been shown. We have indicated that since one of the principal buildings on this site will be fully demolished, stormwater rate and volume controls must be provided considering the predevelopment ground cover condition of the footprint area of the existing building as meadow. The rate control volume must also be capable of draining in twenty-four (24) hours. Tests will be required to be submitted in the next stage of the development process which demonstrate code compliance.

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

B. ORDINANCE REQUIREMENTS

1. Section 101-4C(2a)—Areas of steep and sensitive slopes shall be delineated clearly on the plan with shading. A legend shall be provided on the plan.
2. Section 101-5C(2b)—The expanded driveway on Roberts Road appears to impact steep slopes. A waiver to this code section may be required. Also, if proposed utility work or stormwater connections/improvements disturb slopes exceeding twenty-five (25%) percent, a waiver will be required. These items will be fully evaluated with the Preliminary Plan.
3. 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. A detail shall be provided on the plans that complies with township standards. If the tree protection fence is not shown at the driplines of all trees to remain, the Township Arborist must approve the location of the tree protection fence. This shall be fully evaluated with the Preliminary Plans.
4. 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 walkways if the impacted trees are scheduled to remain.
5. Section 101-6B(2)—If trenches for 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 approval.
6. Section 121-2c, Section 121-15—Roof drains from the proposed new roof area of the Wellness center have been noted to be directly connected to a the seepage bed, however, the material, size and slope of all lines must be indicated. The capacity of the design must be documented clearly in the calculations. This shall be verified with the Preliminary Plans.
7. Section 121-4A(4)—The responsibility for the continued maintenance and operation of the proposed water quality facility and other stormwater facilities on the site shall be the obligation of the property owner. This note shall be clearly indicated on the plan.
8. Section 121-4A(8), Section 121-15—Areas of existing diffused drainage onto adjacent properties must be managed such that the peak rate of runoff does not increase in the general direction of discharge. The proposed development changes drainage directions of runoff from the existing improvements on the property. It may be required to direct

overflow of the water quality system to certain existing stormwater facilities for them to function as designed. This shall be fully evaluated with the Preliminary Plans

9. Section 121-2C, 121-15—In order to provide adequate recharge and water quality, the proposed seepage bed size shall be verified to have been sized to recharge at a minimum the direct volume of runoff from the new wellness center roof area for the two (2) year design storm. Runoff calculations for the required volume of runoff shall be based on the Soil Conservation Service, Type II storm distribution. The calculations and final seepage bed dimensions shall be submitted and will be evaluated with the Preliminary Plans.
10. Section 121-4E(1b)—Discharge from the stormwater basin must be converted from a concentrated flow to a sheet flow. The overflow shall be piped to a level spreader or bubble-up spreader. However, if it is determined to be feasible, the outflow shall be connected into the closed storm sewer system in New Gulph Road. A detail of any spreader/bubble-up device shall be added to the plans. Calculations shall be provided qualifying the design proposed. These shall be fully evaluated with the Preliminary Plans.
11. Section 121-4E(2d)—The distance between the stormwater facility and the structures shall be dimensioned on the plan. Adequate separation between the system and footings shall be provided. This shall be dimensioned on the Preliminary Plan.
12. Section 121-4E(2f)—All seepage beds must contain a sediment trap accessible for maintenance. Details shall be submitted with the Preliminary Plans.
13. Section 121-4E(2i)—Soil permeability tests shall be performed to a depth adequate to demonstrate the functioning of the system. The location of the percolation tests shall be indicated on the plan and the complete test report must be submitted for review. This shall be submitted with the Preliminary Plan.
14. 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. A temporary basin must be designed and shown on the plan.
15. Section 121-5B(4A)—Since a principal structure on the property will be fully demolished, the Cn number for the pre-development conditions for the area of the footprint of the building shall be considered as meadow for all rate and volume control analysis. This shall be evaluated with the Preliminary Plan.
16. Section 121-6C—The project work areas shall be clearly delineated and labeled on the plans. The limits of disturbance shall be clearly delineated on the plan. The amount of square feet of earth disturbance shall be listed. This shall be submitted with the Preliminary Plan.

17. Section 121-6J—A sequence of construction activities shall be submitted. Installation of tree protection and erosion control measures, tree removal, demolition, installation of the temporary and permanent seepage bed, roof collection system, and the connection to the existing storm sewer shall be listed. Notification of the Township Engineer shall be listed in the sequence following installation of protective barriers and prior to earth disturbance. Notification of the Township Engineer for inspection shall be listed prior to installation of the seepage bed and piping. This shall be fully evaluated with the Preliminary Plan.
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 does not adversely impact the adjacent properties. Diversion berms, stoned construction staging areas, and inlets/piping shall be provided in order to ensure acceptable conditions during the construction phase. This shall be fully evaluated during the Preliminary Plan.
19. Section 121-2C, Section 121-15 – Since this site is located in a Provisional Infiltration drainage basin, we recommend the use of porous paving or pavers for the new pedestrian walkways constructed with this project. The tabulation of impervious shall clearly list the amount of the existing porous material on the property that is to be retained and the amount of porous material that will be installed.
20. Section 135-16B(14), 121-4E(1b)—All proposed drainage patterns have not been clearly indicated on the Tentative Sketch Plans. It has not been clearly indicated which areas in the location of the Wellness Center will be directed into the seepage bed and which areas will be uncontrolled. Concepts for this shall be provided with the Tentative Sketch but the details for this must be fully evaluated with the Preliminary Plan.
21. Section 135-16B(7) – The names and addresses of all adjoining property owners shall be shown on the plan
22. Section 135-16B(15) – The area set aside for temporary stormwater management has not been clearly provided on the plans.
23. Section 135-17B(1), 135-17B(13)—The existing structures and driveways on adjoining properties within two hundred (200') feet of the property shall be clearly provided.
24. Section 135-17B(1)—The existing sanitary sewers shall be fully shown on the western side of the project area and to within two hundred (200') feet of the development. The sewer main maintained by the Township shall be shown with an easement width of thirty feet (30').
25. Section 135-17B(13)—The existing storm sewers, inlets and any other manhole or other structure shall be shown within 200'. Invert, rim, and grate elevations shall be indicated. This size and material of all storm sewers shall be provided. This shall be provided with the Preliminary Plan.

26. Section 135-19B(8)—The actual sight distance for the modified drive on Roberts Road must be shown on the plan and must meet the minimum safe stopping sight distance as specified by PaDOT. The Traffic Safety Unit of the Lower Merion Police Department must approve the final drive configuration/location. These items shall be fully evaluated with the Preliminary Plans.
27. Section 135-19B(8)—Maneuverability diagrams must be submitted for the angled parking spaces near the Wellness Center and the access aisles. Adequate maneuverability for service vehicles and Fire Trucks must be documented.
28. Section 135-19B(8)—A traffic impact study shall be submitted with the Preliminary Plans. The study shall evaluate the trip generation and re-distribution of traffic. The affected site driveways shall be evaluated for Level of Service. The surrounding signalized intersections and key un-signalized intersections shall be evaluated. The Township Engineer shall be contacted to determine the scope and assumptions to be used in the study.
29. Section 135-32—A condition of approval is recommended to be provided that concrete road control monuments will be installed at the right-of-way at the intersection of each property line and at all changes in direction if and when requested by the Township.
30. Section 135-40—A Planning Module must be approved by the City of Philadelphia and the DEP prior to recording the Final Plan.

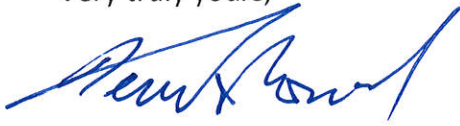
C. ENGINEERING COMMENTS

1. Erosion control measures shall be provided with the preliminary plans. The proposed construction access location shall be indicated. Details that conform to township standards shall be shown. Certification attesting to the completeness shall be provided on the Erosion Control Plan.
2. A Lighting Plan for the parking area and access drive near the Wellness Center shall be submitted with the Preliminary Plan. The Director of Building and Planning must approve all lighting plans submitted with the application.
3. A certification by a civil engineer of the condition of any existing retaining walls in the project area that are to remain shall be provided. Any recommended improvements/repairs shall be made a condition of the permit issue.
4. The Planting Plans must be approved by the Planning Department and the Township Arborist prior to issuance of the permit/recording the Final Plan.
5. A full reveal and depressed concrete curb detail shall be provided.

6. Depressed concrete curb and concrete apron shall be indicated at the adjusted driveway access location on Roberts Road. The length of depressed curb shall be dimensioned on the plan.
7. The location of the existing pedestrian crosswalk over Roberts Road shall be clearly shown and labeled on the plan. The plans shall clarify where the crosswalk will be relocated or it shall be removed.
8. The size, material, and slope of the proposed sanitary lateral shall be shown.
9. The location of all proposed utility services shall be verified. This must be performed with the Preliminary Plan submission.
10. The electric banks in the area of the proposed Wellness Center are indicated to be removed. The limits of the removal shall be clarified on the Preliminary Plans.
11. There is a current stone-reinforced spillway from the corner of the Wellness Center parking area to New Gulph Rd. Improvements to the drainage in this area is recommended to be investigated with the Preliminary Plan submission. The need for additional curbing, inlets and conveyance line capacity increase shall be evaluated.
12. A fill material and topsoil stockpile location shall be provided.
13. A detail of the requested porous walkways shall be provided. The section must comply with the Township standard for porous materials for the area to be excluded from impervious surface tabulation against the allowable limit. This shall be shown on the Preliminary Plans.
14. A note shall be added to the plan indicating that the Township Engineer shall be notified 48 hours prior to the installation of the seepage bed and stormwater piping and also prior to the start of earthmoving activities.
15. The mean grade of the structure shall be calculated and shown on the plan. The architectural plans must be coordinated with and must comply with the grading proposed with this application. This shall be fully evaluated with the Preliminary Plans.
16. The Zoning Officer must agree with the number of parking spaces that will be provide following the development.
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,

A handwritten signature in blue ink, appearing to read "Kevin J. Bowers", is written over the closing "Very truly yours,".

Kevin J. Bowers, P.E.

PENNONI ASSOCIATES

Township Engineer

Cc: Robert E. Duncan, Assistant Township Manager
Site Engineering Concepts, LLC
Bryn Mawr College