



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 254.68

December 2, 2019

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

**Re: Two Bala Plaza Development
Tentative Sketch Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of six (6) plans dated 10-22-18, latest revision dated 11-15-19, prepared by Momenee, Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater**—Proposed drainage patterns have not been clearly shown. The locations of stormwater management for the during construction phase have not been clearly identified
- ❖ **Traffic**—The existing driveway sight distances and internal vehicular maneuverability must be verified to be adequate.

With the resolution of the above major engineering issues and the remaining comments in this letter incorporated, we recommend that the Tentative Sketch 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. The location of the fence shall be provided. A detail shall be included on the plans that complies with township standards. The Township Arborist must approve the

location of the tree protection fence if it is not indicated at the driplines. This shall be fully evaluated with the Preliminary Plan Submission.

2. Section 101-6A(6)—Grade changes around the driplines of trees to be retained shall be minimized. Impacted trees to remain shall be clearly identified. Treatment of any 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. This shall be evaluated with the Preliminary Plan.
3. Section 101-5C(26)—Portions of walkways and the proposed stormwater facilities are shown to be constructed in slopes exceeding twenty-five (25%) percent. Waivers to applicable code provisions for disturbance/construction on steep slopes must be obtained.
4. Section 121-4A(1b)2—As the property is located within the Non-watershed District, the five (5) year frequency storm must be controlled to the lesser of the two (2) year predevelopment rate. For the ten (10) year through one hundred (100) year storms, rate shall be controlled to the peak discharges which occurred prior to development in the respective storm frequencies. This shall be fully evaluated with the Preliminary Plan submission.
5. Section 121-2C(2), 121-15—In order to improve water quality and reduce runoff within the sub-drainage basin area, the applicant shall also be verified to provide recharge for the volume of runoff generated by the roof area for the two (2) year storm for all new roof areas on the development.
6. Section 121-4B(2a)1, 121-15—At a minimum, the increased volume of stormwater generated by the proposed development for the twenty-five (25) year storm shall be recharged. Calculations documenting this shall be submitted with the Preliminary Plans.
7. Section 121-4E(2c)—Seepage beds installed for rate control shall be designed to empty the total design storm volume in twenty-four (24) hours or less. Calculations verifying this shall be submitted with the Preliminary Plans.
8. Section 121-4E(2f)—The requested seepage beds must contain a sediment trap accessible for maintenance. Details shall be submitted with the Preliminary Plans.
9. Section 121-4E(2i)—For any rate control seepage beds, 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 the complete test report must be submitted for review. This shall be fully evaluated with the Preliminary Plans.
10. Section 121-6C—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 fully evaluated with the Preliminary Plans.

11. Section 121-6H—The location, size, and species of trees on the property within twenty-five (25') feet of disturbance shall be included on the plan.
12. Section 121-6J—A sequence of construction activities shall be submitted. Installation of tree protection fence, erosion control, temporary basin, seepage beds, and roof collection systems shall be listed. Notification of the Township Engineer shall be listed in the sequence following installation of protective barriers and prior to earth disturbance. The removal of existing paving/impervious surfaces shall be listed. Notification of the Township Engineer for inspection shall be listed prior to installation of any seepage bed and storm piping. This shall be fully evaluated with the Preliminary Plan.
13. Section 121-10—No grading changes shall be shown within three (3') feet of the property line in order to ensure transition to the grading on the adjoining property. This shall be clearly noted on the plan.
14. Section 121-12—For disturbance of over one acre, an NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permits.
15. 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 noted to be provided as required and/or as directed by the township so as to ensure acceptable conditions during the construction phase. This shall be fully evaluated during the Preliminary Plan.
16. Section 133-15C—All driveways must be designed to allow the sidewalk to cross at an even grade (i.e. no handicap ramps). This shall be verified at the Preliminary Plan submission.
17. Section 133-15F—Concrete aprons shall be shown and labeled at all driveway locations.
18. Section 135-16B(13), 121-15—The soil hydrologic classification shall use Type B soil in the analysis in order to present a conservative design.
19. Section 135-16B(14)—All proposed drainage patterns have not been clearly shown. Revised grading and introduction of inlets, storm sewers and recharge areas will impact drainage directions. Overflow locations from stormwater areas have not been provided. Areas to be controlled and those to be uncontrolled must be clearly indicated.
20. Section 135-16B(14), 121-4E(1b)—Discharge from any stormwater basin, seepage bed, or rain garden shall be converted from a concentrated flow to a sheet flow. The overflow shall be piped to a level spreader, bubble-up spreader or if determined to be feasible, conveyed to a closed storm sewer system. Details must be fully evaluated with the Preliminary Plan.

21. Section 135-16B(15)— The location of any “during construction” temporary facilities have not been clearly indicated.
22. Section 135-16B(15), 121-4A(2)—Roof drains have not been shown to be directly connected to a stormwater facility. The location of the proposed collection system shall be shown. Details regarding the size, slope, and material of the conveyance lines shall be evaluated with the Preliminary Plan.
23. Section 135-17B(6)—The error of closure shall be provided and shall not be greater than 1:5,000.
24. 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 where feasible as determined by the Township Engineer.
25. 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.
26. Section 135-41.1(A)—Adequate water supply must be documented for the development. A letter from Aqua Pennsylvania must be submitted certifying adequate supply for the additional demand. This shall be submitted with the Preliminary Plan.
27. Section 135-16B(7)—The owner’s names and site addresses of all adjoining properties shall be clearly shown on the plan.

C. ENGINEERING COMMENTS

1. The location of the existing sanitary laterals shall be shown.
2. The location, size, material, and slope of the proposed sanitary lateral(s) shall be shown.
3. The location of the proposed utility services shall be provided. This must be indicated on the Preliminary Plan.
4. The existing sanitary sewers shall be shown to within 200’ of the development.
5. All existing utility service locations shall be shown.
6. The actual sight distance triangles shall be shown for each driveway. The sight distance must meet 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 the required sight distance. The

Traffic Safety Unit of the Lower Merion Police Department must approve the final drive configuration. This shall be fully evaluated with the Preliminary Plan.

7. Erosion control measures shall be provided on the plan. Details that conform to township standards shall be shown. This shall be evaluated during the Preliminary Plan.
8. A soil stockpile location shall be provided. This shall be shown with the Preliminary Plans.
9. A note shall be added to the plan indicating that the Township Engineer shall be notified 48 hours prior to the installation of any seepage bed and prior to the start of earthmoving activities.
10. A Lighting Plan must be submitted and must be approved by the Director of Building and Planning.
11. A Planting Plan must be approved by the Planning Department and the Township Arborist.
12. Full reveal and depressed curb details shall be provided with the Preliminary Plans.
13. Depressed curb and concrete apron shall be indicated at the driveway access locations. The length of depressed curb shall be dimensioned on the Plan. The radii at the aprons shall be dimensioned on the plan and demonstrated to be adequate. This shall be provided with the Preliminary Plans.
14. Curb shall be noted on the plan to be repaired/replaced at the direction of the township.
15. Details of the concrete apron and sidewalk shall be provided. Details must conform to township standards.
16. The location of existing storm sewers shall be provided. The size, slope, and material of all storm sewers within two hundred (200') feet shall be indicated. This shall be fully provided with the Preliminary Plans.
17. The mean grade of the structures 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.
18. It should be noted that if a balanced combination of mixed use development with good placement on this site and also on the One, Three Bala Plaza site is employed, it will reduce the number of total vehicle trips generated by the full development by means of increased pedestrian use. However, attention also needs to be placed considering potential interaction between the One/Three and the Two Bala Plaza sites in order to adequately provide for the number of pedestrian crossings of St Asaph Road.

19. If a high increased number of pedestrians are expected to cross St. Asaphs Road at areas that are not controlled by a traffic signal, a protected crosswalk with a center refuge island and pedestrian beacon should be considered. The effects of a required modification to the number of lanes on St. Asaphs Road would also need to be evaluated if this improvement were to be desired.
20. Upgraded pedestrian signals and ADA facilities need to be evaluated for use on the Kings Grant Drive and Decker Blvd Intersections with St. Asaphs Rd.
21. The proposed allowable density increases must be confirmed with the final design proposed. Zoning code requirements for buildings and site/street layout must be fully evaluated. The Zoning Officer must make the final determination for compliance with the zoning codes requirements.
22. A restriction to the percentage of internalization of vehicle trips must be made when investigating the effects on the driveway levels of service and adjacent intersections for the traffic study. This will be fully evaluated with the Preliminary Plans.
23. Stop bars and centerline pavement markings shall be provided as required in order to provide safe and efficient movement of traffic. All traffic control signage shall be provided on a "Signage and Pavement Marking" Plan. This shall be fully evaluated with the Preliminary Plan.
24. Maneuverability diagrams must be submitted. Adequate turning radii for all vehicle movements shall be documented. Fire truck access and maneuverability must be fully documented to be adequate if/as required by the Fire Marshal.
25. A traffic impact study shall be submitted with the Preliminary Plans that fully evaluates the proposed driveways. The levels of service shall be evaluated. The applicant shall contact the Township Engineer's office to discuss and develop the assumptions that will be used in the analysis. The increase in PM peak trip generation shall be evaluated. This will be used to calculate the required traffic impact fee for use in off-site improvements per the Act 209 Study documents. The traffic study shall be submitted with the Preliminary Plans.
26. All existing and proposed impervious surfaces shall be clearly tabulated/itemized on the Plan. This shall be fully evaluated with the Preliminary Plan.
27. A detail of any proposed retaining walls shall be provided. Calculations must be provided for wall clear heights exceeding four (4') feet or for walls with equivalent surcharge loading if/as applicable.
28. 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", with a stylized flourish at the end.

Kevin J. Bowers, P.E.

PENNONI ASSOCIATES

Township Engineer

Cc: Robert E. Duncan, Assistant Township Manager
Momenee, Inc.