

LOWM 248.40

June 25, 2018

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

**Re: 211 Belmont Avenue  
LCB Senior Living 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 03-30-18, latest revision dated 6-15-18, prepared by Bohler Engineering, Inc. We have also reviewed a traffic study dated 06-28-17, prepared by McMahon Associates, Inc. We offer the following comments for your consideration:

**A. MAJOR ENGINEERING ISSUES**

- ❖ **Traffic/Future Improvements**—The Township is currently proposing improvements to the roadways on the frontage of this property. Additional right-of-way may be required to be obtained from this property for the improvements. The proposed land development improvements must be coordinated with the township's improvement plans. Also, a left turn lane from Rock Hill Road into the site is requested.
- ❖ **Stormwater**— Since the principal building on this site will be demolished, stormwater rate and volume controls must be provided considering the predevelopment ground cover condition as meadow. The rate control volume must be capable of draining in twenty-four (24) hours. All proposed drainage patterns have not been clearly shown. The location of the during construction stormwater management facilities have not been identified.
- ❖ **Floodplain**—The current development is not in compliance with the FEMA floodplain limits. The applicant is currently waiting for concurrence from FEMA on the revised floodplain limits.
- ❖ **Steep Slopes**—The driveway is shown within steep slopes. The existing drive location does not require disturbance to the steep slopes and appears feasible to be used. Relief from the township code requiring the use of the area that does not require steep slope

disturbance has been requested. We support relief from that code section since the proposed location better aligns with the driveway across Rock Hill Road and facilitates the requested left turn lane.

With the resolution of the above major engineering issues and the remaining comments in this letter addressed, we recommend approval of the Tentative Sketch Plan.

## **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 101-14A(3g)—All vegetative cover information relative to this code section shall be provided. The principal species of dominant and co-dominant shrub understory have not been clearly provided. All specimen species of twenty (20") inches dbh and larger have not been clearly shown on the plan.
4. Section 121-5B(4A)—Since more than seventy-five (75%) percent of the principal building areas of structures on this site are being demolished, the Cn number for the predevelopment conditions on the site shall be considered as meadow for all rate control analysis. A stormwater rate control facility is required.
5. 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. Meadow ground cover condition shall be used as the predevelopment condition in this analysis. This shall be fully evaluated with the Preliminary Plan submission.
6. Section 121-2C(2), 121-15—In order to improve water quality and reduce runoff within the sub-drainage basin area, the applicant shall at a minimum 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. This shall be fully evaluated with the Preliminary Plan.

7. Section 121-4B(2a)1, 121-15—The increased volume of stormwater generated by the proposed development for the twenty-five (25) year storm shall be recharged. Meadow condition shall be used for the predevelopment condition. Calculations documenting this shall be submitted with the Preliminary Plans.
8. 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.
9. Section 121-4E(2f)—The requested seepage beds must contain a sediment trap accessible for maintenance. Details shall be submitted with the Preliminary Plans.
10. 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 and the complete test report must be submitted for review. This shall be fully evaluated with the Preliminary Plans.
11. Section 121-6C, 121-5A(1)—The limits of disturbance shall be clearly delineated on the plan. The amount of square feet of earth disturbance shall be listed. The maximum bare areas shall not exceed more than twenty-five (25%) percent of the total area at any one time. This shall be fully evaluated with the Preliminary Plans.
12. 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.
13. Section 121-6J—A sequence of construction activities shall be submitted. Installation of tree protection fence, erosion control, any required 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 demolition of the building and existing paving 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.
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—The new driveway must be constructed to allow the sidewalk to cross at an even grade (i.e. no handicap ramps). This has been noted on the plan, however, spot

elevations and required grade adjustments shall be verified with the Preliminary Plan submission.

17. 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.
18. Section 135-16B(14)—Proposed drainage patterns have not been clearly shown. Flow direction from the proposed inlets have not been shown. Overflow locations from the stormwater areas have not been provided. Areas to be controlled and those to be uncontrolled must be clearly indicated.
19. Section 135-16B(14), 121-4E(1b)—Discharge from the stormwater basins 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 storm sewer system. Details must be fully evaluated with the Preliminary Plan.
20. Section 135-16B(15)—All areas for stormwater management have not been provided. The location of any required “during construction” temporary facility has not been indicated.
21. Section 135-16B(15), 121-4A(2)—Roof drains have been noted to be connected to the stormwater facilities, however, the location of the proposed collection system must be clearly shown. Details regarding the size, slope, and material of the conveyance roof lines shall be evaluated with the Preliminary Plan.
22. Section 135-17B(6)—The error of closure shall be provided and shall not be greater than 1:5,000.
23. 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.
24. 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.
25. 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.
26. Section 101-5C(26)—Portions of the structure walls and drives 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.
27. Section 155-167.7(B)—Wooded lot calculations shall be provided on the plans. The total number of trees removed/impacted by the development shall be indicated. This shall be provided with the Preliminary Plans.

28. Section 155-206B—The driveway is shown to be constructed in steep slopes. There is another location that does not require the disturbance that has not been used. Relief from this code section must be obtained as required. The applicant has requested relief. We support the relief from this code section as the proposed location aligns better with the drive across Rock Hill Road and facilitates construction of a left turn lane into the site.

### **C. ENGINEERING COMMENTS**

1. The location of the existing sanitary laterals shall be clearly shown.
2. The location of the proposed utility services shall be provided. This must be indicated on the Preliminary Plan.
3. Details for the bridge over the flume shall be provided. Calculations shall be provided that document the capacity for emergency vehicles. This shall be provided with the Preliminary Plans.
4. All existing utility service locations shall be clearly shown.
5. The actual sight distance triangles shall be shown for the 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.
6. 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.
7. A soil stockpile location shall be provided. This shall be shown with the Preliminary Plans.
8. 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.
9. A Lighting Plan must be submitted and must be approved by the Director of Building and Planning.
10. A Planting Plan must be approved by the Planning Department and the Township Arborist.
11. Full reveal and depressed curb details shall be provided with the Preliminary Plans.
12. Depressed curb and concrete apron shall be indicated at the driveway access location. The length of depressed curb shall be dimensioned on the Plan. The radii at the aprons

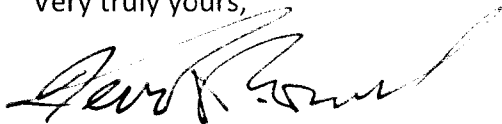
shall be dimensioned on the plan and demonstrated to be adequate. This shall be provided with the Preliminary Plans.

13. Curb shall be noted on the plan to be repaired/replaced at the direction of the township.
14. Details of the concrete apron and sidewalk shall be provided. Details must conform to township standards.
15. The location of existing sanitary sewers and storm sewers shall be provided. The size, slope, and material of all sewers within two hundred (200') feet shall be indicated. This shall be fully provided with the Preliminary Plans.
16. 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.
17. Stop bars and centerline pavement markings shall be provided as required in order to provide safe and efficient movement of traffic. "Do Not Enter" and "One-Way" signage shall be provided. Pavement marking arrows shall be added to clarify vehicular traffic flow direction. All traffic control signage and pavement markings shall be provided on a "Signage and Pavement Marking" Plan. This shall be fully evaluated with the Preliminary Plan.
18. Maneuverability diagrams must be submitted. Adequate turning radii for all service and passenger vehicle movements shall be documented. Parking spaces without adequate maneuverability cannot count toward the required parking. Fire truck access and maneuverability must be fully documented to be adequate if/as required by the Fire Marshal.
19. A revised traffic impact study shall be submitted with the Preliminary Plans that fully evaluates the proposed driveways and selected intersections. These intersections shall include at a minimum Rock Hill Road and Conshohocken State Road, Rock Hill Road and Belmont Avenue, Belmont Avenue and Levering Mill Road, Belmont Avenue and Old Belmont, Belmont Avenue and the expressway ramps. 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 verified. This will be used to calculate the required traffic impact fee for use in off-site improvements per the Act 209 Study documents. The revised traffic study shall be submitted with the Preliminary Plans.
20. A left turn lane into the site has been recommended to be provided for traffic entering the site from Rock Hill Road. This is not shown on the current plan. This shall be shown on the plan and coordinated with the crosswalk and any pedestrian refuge area approved for installation. Details for the left turn lane, crosswalk and any approved refuge area must be included with the preliminary plans.

21. A Highway Occupancy Permit (HOP) is required from PaDOT for the new driveway. The township would request that they be copied on all correspondence and be invited to attend all meetings with the department for this development.
22. The project is located in the area of the township's planned corridor improvement project. That project may result in the need for additional right-of-way. The proposed development must be coordinated with the township design of the roadway, including the curb, sidewalk, and stormwater design.
23. The Township Floodplain is contained within the culvert/flume, however, the FEMA Floodplain is currently mapped outside the enclosure and is in conflict with the proposed structures. The revised floodplain limit is currently under review by FEMA. The FEMA line would be required to be amended or the development must be redesigned.
24. All existing and proposed impervious surfaces shall be clearly tabulated/itemized on the Plan. This shall be fully evaluated with the Preliminary Plan.
25. 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. A Certification by a civil engineer of the condition of the existing retaining walls to remain shall be provided. Any recommended improvements/repairs shall be made a condition of the permit issue. This shall be provided with the Preliminary Plan submission.
26. Feasibility for the design of an emergency vehicle connection drive to Belmont Avenue shall be provided.
27. 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  
Bohler Associates, Inc.  
McMahon Associates, Inc.