

Memorandum

To: Ojetti Davis, Planning Board Secretary

CC: William Sullivan, Esq., Board Attorney
Greer Patras, PP, AICP, MCRP, Board Planner

From: Eric L. Keller, P.E., P.P., LEED AP
Planning Board Consulting Engineer

Date: January 30, 2021

RE: 201 and 167 Ridgewood Road North
PB Application No. 275
Block 1303, Lots 37 & 38
Minor Subdivision
Technical Review #2
BCG Project # 080373-SO-028

We have received the following documents for the purposes of conducting an engineering completeness review:

1. Plan set entitled Minor Subdivision Development Plan, Lots 37 & 38 in Block 1303, Township of South Orange Village, Essex County, NJ” prepared by David E. Fantina, P.E. of Bernardsville, New Jersey, containing four (4) sheets, dated November 5, 2020 revised through January 13, 2021; **These plans are unsigned**
2. Correspondence from the applicant’s attorney Day Pitney, LLP dated January 20, 2021;
3. Report entitled “Hydrologic and Hydraulic Narrative to analyze the impact of Residential Subdivision of Lots 37 & 38, Block 1303, Located in The Village of South Orange Township, Essex County, New Jersey” prepared by David Fantina, P.E. dated December 10, 2020 and revised January 26, 2021; **This report was emailed directly to our office by the applicant’s engineer and is not on file with the Board to our knowledge.**
4. Report entitled “Maintenance Plan for the Proposed Stormwater Management Facilities for Lots 37 & 38, Block 1303, Located in The Village of South Orange Township, Essex County, New Jersey” prepared by David Fantina, P.E. dated January 2021

The documents submitted are in response to our December 30, 2020 correspondence. Those comments which have been addressed have been removed from this review memorandum.

Below are technical comments for the application materials submitted to the Board:

1. (Former Comment #3) Our office recommends that the riparian buffer shown on the plan set be recorded as a Conservation Easement with the County. The deed should stipulate that no structures, sheds, patios, walks, swimming pools, etc. are permitted within the conservation easement; **1/28/21 – The applicant has indicated that this condition would be acceptable. A note indicating same should be included on the plan set.**
2. (Former comment #6) We offer the following comments with regard to Sheet 2 of 4 of the Fantina Plan Set:
 - a. The size and material of the existing storm sewer in North Ridgewood Avenue should be provided; **1/28/21 – The applicant has stated that the storm sewer is clogged and the information could not be obtained. The applicant should coordinate with the Village on the cleaning of the storm sewer and obtain the required information. The proposed stormwater improvements will be connected to the existing storm sewer**
 - b. Details for the infiltration structures should be provided on the plan set; **1/28/21 – see additional comments below**
 - c. Proposed Lot 38 proposes a ninety (90') foot section of driveway which is calculated to be at a slope of 12.6 percent. We recommend that the applicant reduce the driveway slope to ten (10) percent or under. This can be accomplished by either lowering the garage floor or lengthening the driveway; **1/28/21 – The applicant's engineer has revised the plans to show a profile to show a 5% slope at the driveway apron which then increases to 11.8%. Testimony should be provided which verifies that vehicles will not bottom out while using the driveway.**
 - d. (Formerly e) Both proposed driveways will discharge uncontrolled stormwater into North Ridgewood Ave. The plans should incorporate measures to limit the amount of stormwater conveyed directly into the right-of-way. Our office notes that during heavy rainfalls, this can create a hazardous driving condition with runoff being directed into the roadway; **1/28/21 – The plans are revised to include an area inlet on the side of each of the driveways. It appears these inlets will not collect a significant portion of the proposed driveways. Our office recommends a trench drain be incorporated into the design to collect the runoff from these driveways or the driveways be regraded to make the inlets more functional.**

3. (Formerly Comment #7) We offer the following comments with regard to the stormwater management report:
 - a. (Formerly e) Time to drain calculations consistent with those provided in the New Jersey Department of Protection Stormwater Best Management Practices Manual should be provided **1/28/21 – this comment has not been addressed. Calculations should be consistent with those required in Chapter 9.5 of the NJDEP BMP Manual;**

Additional Comments on Revised Plans 1/30/21:

1. Sheet 2 of the plan set proposes stormwater inlets with a 3” sump. If the applicant continues to propose the inlets in lieu of a trench drain, the sump should be increased to two feet. The detail provided on Sheet 4 should be revised to be consistent with the proposed inlets;
2. The plans are revised to include an inlet on the side of each of the driveways. Same propose a six (6”) inch diameter pipe to convey stormwater to the proposed seepage structures. Our office has concerns with a pipe of the size and its susceptibility to clogging. The pipe diameter should be increased, desirably to a minimum 10-inch diameter;
3. The plans propose a four (4”) inch diameter overflow pipe from the proposed seepage pits. This pipe should be sized to convey the maximum inflow (100 year storm event) in case of system failure;
4. The Drywell Detail should, at a minimum, include the grate extended to the surface in order to facilitate the inspection and maintenance of same;
5. The Ridgewood Road Pavement Detail shall be revised to include 6” of Dense Graded Aggregate, 4” Hot mix asphalt 19M64, and 2” of HMA 9.5M64
6. The drainage calculations should be updated to not account for exfiltration in the routings. In addition, the outlet pipe from the drywells should be sized to convey the 100 year inflow;
7. The drainage report should be revised to account for the top slab thickness for each of the drywells. We note that they are not accounted for in the storage calculations;
8. The pipes connecting the proposed inlets to the drywells should maintain 18” of cover. The plans currently provide 12”;
9. The plans propose to concentrate stormwater runoff along the proposed property line. Our office has concerns with regard to erosion. Testimony should be provided on how this area will be protected and the plans updated accordingly;

10. We offer the following comments with regard to the Stormwater Maintenance Plan:

- a. A separate plan should be provided for each lot which is to be recorded with the deed for each proposed lot;
- b. The maintenance of these systems will be the responsibility of the homeowners. The document should be revised such that non-technical people will easily understand the requirements of this plan;
- c. The actual time to drain time should be incorporated in to the plan;
- d. Inspection of the system should also describe the type of inspection for the inlets piping and roof gutters (i.e., identify debris in system, cracking of structures, etc.);
- e. The plan discusses “maintenance” of components of the system. This should be expanded and itemize the type of maintenance. This includes, but is not limited to, cleaning of inlets, removal of debris from the drywell, etc.
- f. Maintenance and inspection logs should be incorporated into the document

Any revised plans and other documents should be accompanied by a cover letter responding individually to each of the comments presented in this review letter. The cover letter should also outline those changes to the plans that were required, as well as those not readily apparent.