

# WARREN TOWNSHIP ENGINEERING DEPARTMENT

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## MEMORANDUM

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**TO:** Chairman & Board Members  
**COMPANY:** Warren Township PLANNING BOARD  
**FROM:** Christian M. Kastrud, PE, CME, Township Engineer  
**SUBJECT:** PB 23-01 – 40 Brookside Drive Blk 62.03, Lot 18.02, Preliminary Major Subdivision  
**DATE:** March 21, 2023  
**REVIEW:** Review Letter #1 (for Public Hearing)  
**COPY TO:** Catherine Mueller, PE, applicant's engineer  
Richard Kaplan, Esq., applicant's attorney

As requested, we have reviewed the following information in conjunction with the above referenced application:

- Application material (including application and checklist for Preliminary Major Subdivision)
- Environmental Assessment Report in letter format dated December 1, 2022, prepared by Page-Mueller Engineering Consultants,
- Project Description and Statistics Report in letter format dated December 1, 2022, prepared by Page-Mueller Engineering Consultants,
- Stormwater management report titled, "Stormwater Management Report, for Preliminary Major Subdivision, Block 62.03, Lot 18.02, Township of Warren, Somerset County, New Jersey," dated December 2022, unrevised, prepared by Page-Mueller Engineering Consultants,
- Survey of property consisting of one (1) sheet titled, "Topographic Survey, of Tax Lot 18.02, Block 62.03, Located in the Township of Warren, Somerset County New Jersey," dated 6-28-2022, last revised 9-16-2022, prepared by James P. Deady Surveyor, LLC, signed by John C. Ritt, NJ Professional Land Surveyor,
- Major subdivision plans consisting of nine (9) sheets titled, "Preliminary Major Subdivision of Block 62.03: Lot 18.02, Tax Map Sheet 60, Township of Warren, Somerset County, New Jersey," dated December 1, 2022, unrevised, prepared by Page-Mueller Engineering Consultants, PC, signed by Catherine A. Mueller, NJ Professional Engineer,

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After reviewing the above application material, plans, and reports, we offer the following comments:

**General engineering review comments for public hearing:**

- 1.1 The applicant is proposing to subdivide the property into five (5) lots; one lot will contain the existing dwelling and four (4) new building lots will be created. No proposed changes are shown for the existing dwelling lot (Proposed Lot B) with the exception of a carport and associated pavement which are to be removed as part of the project.
- 1.2 There are freshwater wetlands, buffers, flood hazard areas, and riparian buffers shown on the plans. The applicant shall describe the status of approvals from the NJDEP (e.g. freshwater wetlands letter of interpretation, permit to fill isolated wetlands, flood hazard area verification for flood elevation and riparian buffer).
- 1.3 The property will be served by public utilities (telephone, cable, power), which are currently overhead on utility poles located on the subject property side of Brookside Drive. All utilities shall be constructed underground to the proposed dwellings. The applicant shall confirm with the utility companies that service is available and that the proposed geometry and alignment of the services is acceptable.
- 1.4 The applicants are proposing to construct an extension to the sanitary sewer to provide public sanitary sewer to all of the lots. Three (3) of the new building lots (Proposed Lots C, D, E) and the one (1) existing dwelling will be serviced by gravity sewer and laterals. The farther east lot (Proposed Lot A) will be serviced via low-pressure force lateral across two (2) of the lots in a proposed easement. It appears that the work to construct the laterals for Proposed Lots A & B will require NJDEP permits for disturbance within riparian buffers and in the case of Proposed Lot A, a permit will be required to cross the stream that traverses the property. The applicant shall testify as to why the low-pressure force lateral is required. The grades and elevations appear to allow all proposed lots to be serviced by gravity sewer. In addition, to providing gravity sewer for the proposed development, extending the sewer to the easterly lot would allow future extensions (by others) to service additional lots.
- 1.5 Our records indicate that there is no public water available in Brookside Drive. The applicant shall explain how the dwellings will be serviced with water. Is a water main extension proposed? Will wells be proposed for each of the lots? The plans shall be revised to address water supply. The plans shall be revised to show the nearest fire hydrant location.
- 1.6 The plans are silent with respect improving the roadway along the frontage of the proposed subdivision. The improvements from the Strawberry Lane subdivision extend east along the frontage of the first one-hundred eighty feet (180') of the subject property. The applicant's engineer shall revise the plans to show a minimum half-width of fourteen feet (14') with drainage and curbing along the edge of pavement.

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- 1.7 The plans show a riparian buffer along a stream that ultimately crosses under Brookside Drive. The flood hazard area design flood elevation for the stream shall be calculated and shown on the plans to ensure that no development, disturbance, or filling is proposed within the regulated area.
- 1.8 We have confirmed new lot numbers with the Warren Township Tax Assessor.
  - a. Lot A will be Lot 18.04, Block 62.03.
  - b. Lot B will be Lot 18.05, Block 62.03.
  - c. Lot C will be Lot 18.06, Block 62.03.
  - d. Lot D will be Lot 18.07, Block 62.03.
  - e. Lot E will be Lot 18.08, Block 62.03.

**Major subdivision plan comments:**

- 2.1 Sheet 1 – In the list of the Governmental Approvals the name ‘Sewerage Authority’ shall be revised to ‘Sewer Department.’
- 2.2 Sheet 1 – Note #9 in the ‘Notes/ References’ list states that the riparian buffer is measured from the centerline of the stream as there is no discernable bank. The applicant’s engineer shall measure the riparian buffer from the top of bank as required.
- 2.3 Sheet 1 – Upon approval from NJDEP for L.O.I., Freshwater Wetland Permits, Flood Hazard Area Verification, Riparian Buffer area disturbances, the dates and permit numbers shall be added to this sheet.
- 2.4 Sheet 2 – The plans show a ten-foot (10’) wide ‘Shade Tree & Utility Easement’ along the Brookside Drive right of way. The applicant’s engineer shall testify as to how the easement will function how the tree root interference with the utilities will be avoided. One alternative would be to separate the two easements.
- 2.5 Sheet 2 – The plans show ten-foot (10’) wide ‘Private Sanitary Easement’ coincident with the ‘Shade Tree & Utility Easement’ mentioned above. The applicant’s engineer shall testify as to how the trees, utilities, gravity lateral, and low-pressure force lateral will occupy the same ten-foot-wide space.
- 2.6 Sheet 2 – The plans show proposed conservation easements across the rear of the proposed building lots (Proposed Lots A, C, D & E). On Proposed Lots C, D & E, the proposed conservation easement line is along the riparian buffer. On Proposed Lot A, the riparian buffer is not encompassed within the proposed conservation easement. Warren Township’s Land Use

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Ordinance, Section 15-10E.3 requires that only the wetlands and wetlands buffers be incorporated into the conservation easement.

- 2.7 Once the final conservation easement areas are determined, bearings and distances shall be added to the plans to describe the easement on each lot.
- 2.8 Sheet 3 – The plans show grading for the four (4) proposed dwellings on the proposed building lots. Incorporated into the grading are eight (8) bioretention basins (two per lot) to address stormwater runoff. These bioretention basins shall be placed in Stormwater Management Easements and filed in the county clerk’s office along with the Operation & Maintenance Manuals. A deed restriction or notification shall also be filed making the property owner aware of the maintenance obligations.
- 2.9 Sheet 3 – The plans show an emergency spillway on Proposed Lot E which is directed towards existing Lot 21 (2 Strawberry Lane). This emergency spillway shall be moved from the west side of this bioretention basin to the east side, where its impact will not adversely affect the adjoining property (2 Strawberry Lane).
- 2.10 Sheet 3 – All retaining walls are shown to be a maximum of three feet (3’) high. We note this as any exceedance of this height within the lot yard areas would require a variance.
- 2.11 Sheet 3 – As noted in our general comments above, this sheet shall be amended to show the improvements to Brookside Drive once the actual details have been determined.
- 2.12 Sheet 3 – While the proposed dwelling on Proposed Lot E is in conformance with the bulk requirements, the applicant may wish to provide additional landscape buffering along the westerly sideline as that common property line is the rear property line for 2 Strawberry Lane.
- 2.13 Sheet 4 – The plans show a proposed sanitary sewer gravity lateral connecting the existing dwelling on Proposed Lot B to the sewer main in Brookside Drive. This lateral crosses through the riparian buffer and will require permits from NJDEP for disturbance.
- 2.14 Sheet 4 – The plans shall show the existing well and septic system that serve the existing dwelling. The abandonment of the septic system shall be done in accordance with Board of Health ordinances. NJDEP riparian buffer permits may be required for this disturbance.
- 2.15 Sheet 4 – As mentioned above, this sheet shall be amended to show how each of the dwellings will be provided potable water; wells or extension of public water.
- 2.16 Sheet 4 – As mentioned above, this sheet shows a 565-foot extension of the public gravity sanitary sewer in Brookside Drive. The current terminal manhole in the public system is located approximately one-hundred feet (100’) east of the centerline intersection of Brookside Drive and Strawberry Lane. This manhole is approximately ten feet (10’) deep. One can reasonably assume that this manhole was constructed with the intention that the gravity sewer

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main could be extended to serve additional properties at some point in the future (which is now). While the plans do show an extension of 565 feet, it does not extend to the easterly lots, Proposed Lot A and Proposed Lot B. It appears that the elevations and grades allow for the gravity sewer to be extended past the culvert (low point in Brookside Drive) to the east in front of Proposed Lot A. The applicant shall discuss.

**Stormwater management report comments:**

- 3.1 The stormwater management report correctly classifies this proposed subdivision as a major development. As such, the applicant's engineer is required to address stormwater runoff quantity, quality, and groundwater recharge.
- 3.2 One of the foundational characteristics that must be determined prior to accurately designing or evaluating stormwater management solutions is the permeability of the underlying soil. The permeability of the soil is typically analyzed through the execution of soil logs and associated tests. The NJDEP BMP Manual sets forth the testing requirements in Appendix E, Soil Testing Criteria. It is required that these tests be performed and results reviewed prior to board approval.
- 3.3 The routing diagram in the stormwater management report shows a multitude of drainage areas. Full size, scaled plans supporting the areas, soil characteristics, and drainage paths shall be submitted.
- 3.4 Additional charts are required in order to verify rainfall amounts for the 2, 10, and 100-year storms. The NOAA Atlas, 24-hour, Type C rainfall table shall be submitted.
- 3.5 Calculations for the exfiltration rates used on each of the bioretention basins shall be provided. These rates may change based upon the results of the soil testing mentioned in 3.2 above.
- 3.6 A groundwater mounding analysis is required in the areas of the BMPs that are providing the groundwater recharge.
- 3.7 An operation and maintenance manual is required for each of the properties.

Please contact me if you have any questions or require further information.

We will provide further comments on plans and reports once the revised documents have been received.

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