



ALBERT FEDERICO CONSULTING, LLC

Traffic Engineering and Mobility Solutions

133 Rutgers Avenue
Swarthmore, PA 19081

June 7, 2023

via email only
c/o Liudmila Carter, Assistant Township Manager

Russell Hatton, Chair
Westtown Township Planning Commission
1039 Wilmington Pike
West Chester, PA 19382

Re: Stokes Estate (Fox Clearing, LLC)
Conditional Use - Traffic Review
Westtown Township, Chester County

Mr. Hatton:

As requested, a technical review of the following materials has been completed relative to the Westtown Township Zoning Ordinance as well as reasonable and customary standards of Traffic Engineering practice:

- Conditional Use Plans for Stokes Estate (sheets 1-5, 12-27, 35-37 only) prepared by DL Howell, dated March 17, 2023
- Stokes Estate Residential Project Traffic Impact Study, prepared by Transportation Resource Group, Inc., dated May 2021, revised April 2023

The applicant is proposing to develop eighty-three new residential dwelling units east of Shiloh Road (TR 626), generally opposite Oakbourne Road (TR 359). Vehicular access is proposed via two new street connections to Shiloh Road: opposite Oakbourne Road and opposite of Hunt Drive (TR 546). On-site circulation is proposed via new internal streets and sidewalks. The plan also includes four cul-de-sacs.

Please note that this review should be considered preliminary and subject to change based on the submission of revised materials to address the comments presented herein.

The following comments are offered for the Township's consideration:

Conditional Use Plans

1. PennDOT stopping sight distances should be provided at the intersections of Road "A" and Shiloh Road; and Road "D" and Shiloh Road *{§149-908C}*. The Shiloh Road Sight Distance Analysis (sheet SD-1.1) should be revised to address the following:
 - a. Include a centerline profile of Shiloh Road and evaluate the available sight distance for vehicles turning left from Shiloh Road into the proposed development.
 - b. Provide a speed study supporting the assumed travel speeds.
 - c. Ensure that the assumed grades are measured at the beginning of the braking distance.



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2. A continuous collector street and trails shall be developed as part of the development to provide internal through connection as required by the Board of Supervisors. *{§170-503C(3)}*
 - a. As submitted, Road "A", "B", "C" and "D" do not provide a continuous collector street.
 - b. The site is proximate to several proposed trails and a recommended bike route. The Alternative Site Plans (sheets C1.01A and C1.01B) included with the submitted materials illustrate several potential trails and connections. It is recommended that the Board considers requiring easements to provide a future connection to proposed trails to the east and south of the property as illustrated in the Trails and Bikeways Map of the Township Comprehensive Plan.
3. The following issues may be addressed at Land Development but are noted here as the resolution could impact the overall number of proposed dwellings:
 - a. Shiloh Road is classified as a Collector; the Board may require dedication of an additional five feet of right of way along the site frontage. *{§149-903C.1}*
 - b. Road "C" should be revised to provide the required level areas approaching the intersection of Road "A". *{§149-907E}*
 - c. Road "A", between "B" and "C", and Road "B", between "A" and "D", do not meet the minimum block length. *{§149-913B}*
 - d. Sharp horizontal curvature should not be introduced near the bottom of a steep grade approaching or near the low point of a pronounced sag vertical curve. Road "A" (STA 8+98 to 15+30) and Road "D" (STA 8+73 to 12+33) should be revised to eliminate the overlapping curves using the minimum (150') horizontal radius and rate of curvature.
 - e. Consistent with A Policy on Geometric Design of Highways and Streets, Table 3-36 (Design Controls for Sag Vertical Curves) the minimum Design Rate of Vertical Curvature is 37.0.
 - f. As presented, the northern edge of cul-de-sac "C" is ~5' higher than the existing grade. Provide additional information demonstrating that the adjacent retaining wall along the northern edge of the cul-de-sac can be constructed without encroaching into the adjacent property (Vanscovich - Parcel 67-20-20.6).

Traffic Impact Study

4. The future condition analyses assume that the traffic signal at Shiloh Road/Westtown-Thornton Road and Street Road is re-timed, reducing green times along Street Road (a PennDOT designated Critical Corridor) in favor of minor approaches. It is recommended that the Board consider a condition requiring the Applicant to contribute to the re-timing of the signal as assumed in the Study.
5. Traffic counts must be completed between April and November. *{§149-804A(3)g}*
There is no objection to the Applicant requesting a Waiver as part of the Land Development application.



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With respect to subject Conditional Use Application, the burden of proof shall be upon the applicant to prove to the satisfaction of the Board of Supervisors, by credible evidence, that the use will not result in or substantially add to a significant traffic hazard or significant traffic congestion. The peak traffic generated by the development shall be accommodated in a safe and efficient manner. Such analysis shall consider any improvements to streets that the applicant is committed to complete or fund. {§170-2009.D(1)(h)}

Based on the preceding, the Applicant has not demonstrated compliance with the conditional use criteria in §170-2009.D(1)(h), most notably relative to:

- *Sight distance for vehicles entering the property via left turns from Shiloh Road.*
- *Internal roadways with undesirable combinations of horizontal and vertical curvature.*

Please do not hesitate to contact me at 610.608.4336 or albert@federico-consulting.com should you have any questions or require additional information.

Sincerely,

Albert Federico, P.E., PTOE