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TO: Mr. Mark Lucas, PE-Township Engineer, East Bradford Township, Chester County, PA
FROM: Justin Barnett, RLA-ESE Consultants, Inc.
DATE: 01/19/2016

SUBJECT: Tigie Tract-Conditional Use-Response Letters

RE: Response to Comments
Tigie Tract-Conditional Use Submission
East Bradford Township, Chester County, PA
ESE Project No. 3895

Dear Mr. Lucas,

ESE Consultants, Inc. offers the following responses to the review letters authored by;

- Lisa Thomas, RLA of Glackin Thomas Panzak (dated November 17, 2015)
- Mark Lucas, Township Engineer for East Bradford Township (dated November 23, 2015)
- Amy Kaminski, P.E. for Gilmore & Associates, Inc. (dated November 3, 2015)

The attached response letters are in regards to the review letters received for the Tigie Tract-Conditional Use Plans that were submitted October 5, 2015. Responses from ESE Consultants, Inc. can be found in *red*. John Wichner of McMahon Transportation Engineers and Planners has also addressed comments by Gilmore & Associates, and can be found attached to this response. In addition, a revised Conditional Use plan set and revised Environmental Impact Assessment, dated January 19, 2016 has been included which addresses these comments.

Sincerely,

Justin Barnett, RLA

Planner III

ESE Consultants, Inc.

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CC: Andrew Semon, Toll Brothers, Inc.
Louis Colagreco, Esq., RRHC
Amy Kaminski, P.E., PTOE, Gilmore & Associates, Inc.
Lisa Thomas, RLA of Glackin Thomas Panzak

November 17, 2015

Mandie Cantlin
Assistant Township Manager
East Bradford Township
666 Copeland School Road
West Chester, PA 19380

RE: Tigue Property
Conditional Use Plan Review #1
GTP Project #15-071

Dear Mandie:

At your request, Glackin Thomas Panzak, Inc. has reviewed a Conditional Use Plan for a proposed residential development located at 945 Tigue Road, known as the Tigue Property, as it relates to the Township landscape, lighting and open space requirements. The proposed development utilizes the Open Space Development Option presented in the Township Code. The development proposed 90 new units and plans to retain one existing dwelling unit. The units consist of a mix of single-family lots and multi-family townhouses.

We have reviewed the following plans and documentation for review. The plans and documents were received in our office on October 12, 2015.

- A 4-sheet Conditional Plan set, prepared by ESE Consultants, Inc., dated October 5, 2015.
- An Existing Conditions Plan, prepared by ESE Consultants, Inc., dated October 5, 2015.
- An Environmental Impact Assessment report, prepared by ESE Consultants, Inc., dated October 5, 2015.
- A Project Narrative, prepared by ESE Consultants, Inc., dated October 5, 2015.
- Application for Conditional Use, dated October 5, 2015.

We offer the following comments concerning this property for your consideration and distribution.

Zoning Ordinance:

1. **Section 115-45 – Vegetation Preservation, Management and Compensatory Planting.** The applicant must meet the requirements of this section with subsequent plan submissions beginning with the

submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during the preliminary plan submission.*

2. **Section 115-45.1 – Planting Requirements.** The applicant must meet the requirements of this section with subsequent plan submission beginning with the submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during the preliminary plan submission.*
3. **Section 115-45.3 – Riparian Buffer Area (RBA) Conservation District -** The applicant must meet the requirements of this section with subsequent plan submission beginning with the submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during the preliminary plan submission.*
4. **Section 115-49.B.(2)(b) – Qualifying Conditions.** As part of the conditional use application the applicant shall present design strategies intended to maximize active recreational uses in open space areas.

The plan includes two active recreation elements, a single tennis court and tot lot located on the parcel north of Tigue Road and a trail along Tigue Road that is proposed for dedication to the township. The active recreational elements are not maximized on this site.

All recreational elements should be located outside of major view sheds and to require minimal grading. *This comment has been acknowledged. The latest plan submission proposes a tot-lot, tennis court and a pavilion area that serve as structures built to provide active recreation. Land area totaling 4.13 Acres in the open space area has been dedicated for active recreation. The tennis court is located near the high-point of the site in a location that serves the proposed community best. Proposed grading for the court will be minimal while still providing for a safe recreation area.*

5. **Section 115-49.C.(3)(g) – Area and Bulk Regulations.** This section requires that no outdoor community swimming pool, tennis court or similar facility be located closer than 100 feet to any adjacent residential building or tract boundary.

The proposed tennis court is located less than 100 feet away from Units 45-47. It is recommended that the court be relocated or a different form of active recreation be proposed for this area. *This comment has been*

acknowledged and the proposed tennis court has been placed a minimum distance of 100' away from the nearest proposed home.

6. **Section 115-49.C.(3)(l)[3] – Townhouse Development Standards.** The use of mansards, gables, and variations of color, texture or of a ridge line height or orientation may be required to provide architectural diversity and individuality for the various building subdivisions or sets of them.

The applicant should submit architectural elevations to address this requirement for the proposed townhouse units with future plan submissions. *This comment has been acknowledged and the Applicant will provide architectural elevations during the next conditional use hearing.*

7. **Section 115-49.C.(3)(m) – Building Height.** Building and accessory building or structure height is to be no more than three stories above grade plane or 35 feet maximum. A note should be added to the plans indicating the maximum allowable building height. *This comment has been acknowledged and a note indicating the 35' maximum height has been added to the plans as requested.*

8. **Section 115-49.C.(3)(n) – Tract Coverage.** Maximum Tract coverage in the R-2 and R-3 Districts is 15%, R-4 District is 30%. The plans should be revised to provide address the tract coverage requirements. *This comment has been acknowledged and a chart indicating proposed and allowable tract coverage has been added to the plans as requested.*

9. **Section 115-49.C.(3)(o) – Development Standards.** This section requires information related to the establishment of private yard areas, management of open space, maximum use of open space for active recreation uses, the provision of appropriate amenities, and the allocation of impervious coverage. Information addressing this section should be provided with future plan submissions. *This comment has been acknowledged. All proposed lots will be deeded and recorded with particular attention being paid to lot corners where a decorative feature will be added to indicate boundary and to prevent potential “creep” into the open space. Management of the open space and active recreation areas will be given to an HOA. The allocation of impervious coverage on a lot-by-lot basis will be further addressed during preliminary plan submissions.*

10. **Section 115-49.C.(3)(p) – Scenic Preservation.** This section addresses scenic preservation. The plan should demonstrate that buildings are located so as to not dominate the hilltops or monopolize views of the rural countryside to the detriment of adjacent landowners. The plans should be revised to address these requirements. *This comment has been acknowledged and the Applicant requests the reviewer to view the proposed view-shed exhibit attached at the end of the EIA report to confirm that proposed buildings will not dominate the hillsides or views of the rural countryside. It should be noted there will be a vegetative buffer along the tract boundaries to help screen the views of the proposed homes.*
11. **Section 115-49.C.(3)(q) – Active Recreation.** The Board of Supervisors should determine if the purposes set forth in **Section 115-49.A. Purpose.** would be better served by permitting the applicant to pay a fee in lieu pursuant to **Section 95-34.1.** It should be noted that trails shall not be considered active recreation for the purposes of determining the proper fee in lieu. *This comment has been acknowledged and the Applicant has supplied the requisite land as required for active recreation.*
12. **Section 115-49.C.(3)(s) – Agricultural Soils.** The plans should provide information that addresses the presence of prime agricultural soils and the preservation of at least 50% of these areas. *This comment has been acknowledged and the presence of prime agricultural soils along with the 50% preservation requirement has been identified on the plans.*
13. **Section 115-50.C.(1) – Open Space Management.** The applicant will be required to provide an Open Space Management Plan which meets the requirements of the Zoning Code, Section 115-50 at the time of submitting plan for preliminary plan review. *This comment has been acknowledged and the Applicant will comply on future submissions.*
14. **Section 115-51.C.(4)(b) – Environmental Impact Assessment.** Rare, threatened and/or endangered species, including both plants and animals is to be provided in the environmental impact assessment (EIA) report.

The applicant has indicated that the project site will be screened for the above mentioned biota through the use of PNDI (Pennsylvania Natural Diversity Inventory environmental review tool) prior to submitting for permits to the PADEP. The applicant should provide this information with subsequent plan submissions to insure the proposed design does

not infringe on any rare, threatened and/or endangered species. *This comment has been addressed and the EIA report has been revised to include the PNDI report as requested.*

15. **Section 115-51.D. – Environmental Impact Assessment.** A narrative addressing the requirements of this section should be provided. The report indicates that only a sketch plan is proposed by the applicant at this time. As the plan is further developed with subsequent submissions, all environmental impacts and proposed remedies should be documented in a revised EIA report. *This comment has been acknowledged and the EIA report has been revised to address this section as well as provide a negative impact/remedy chart*
16. **Section 115-52 – Buffers.** Buffer areas provided shall be planted in accordance with the regulations of this section. The applicant shall provide information regarding the required plantings with future plan submissions, beginning with the submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during preliminary plan submission.*
17. **Section 115-57 – Lighting.** Lighting shall be provided as required by and in accordance with this section. At a minimum, lighting shall be provided at proposed roadway entrances/exits to the development and at roadway intersections within the development. The applicant shall provide this information with future plan submissions beginning with the submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during preliminary plan submission.*
18. **Section 115-77.(3)(a)[4] – Conditional Uses - Natural Features.** This section requires that the plan indicate the location of soil types on the site. *This comment has been acknowledged and the plans have been updated to provide better readability on the soil locations and types.*
19. **Section 115.77.(3)(a)[9] – Conditional Uses - Tree Locations.** This section requires the location of individual trees over 6” dbh and other vegetative areas. *This comment has been acknowledged and the plans have been updated to provide the location of individual trees over 6” dbh.*
20. **Section 115.77.(3)(a)[11] – Conditional Uses - Views.** This section requires a delineation of portions of the tract that are visible from

adjacent public roads. *This comment has been acknowledged and the 100 scale overall plan has been updated to show portions of the tract visible from the surrounding roads.*

21. **Section 115.77.(3)(b)[7] – Conditional Uses – Historical Structures.** This section requires the location of all historical structures and areas of historical significance within 300 feet of the tract boundary. *This comment has been acknowledged and addressed on the latest plan submission.*
22. **Section 115.77.(4)(c) – Conditional Uses – Proposed Features.** This section requires calculations showing the lot area of each proposed lot. *This comment has been acknowledged and the lot area for each individual lot has been added to the plans.*
23. **Section 115.77.(4)(g) and (j) – Conditional Uses – Vegetation.** These sections require information related to the clearing of existing vegetation. *This comment has been acknowledged and the plans have been updated to provide the number and type of tree being proposed for removal.*
24. **Section 115-129. B. – Historic Resource Protection – Landscape and Buffering.** Landscape buffering is required for properties that contain a Class I or Class I DOE historic resource. This requirement should be addressed with future plan submissions, beginning with submission for preliminary plan review. *This comment has been acknowledged and the applicant will comply during preliminary plan submission.*
25. **Section 115-131.1.A.(1) – Historic Impact Study.** A Historic Resource Impact Study shall be provided when a subdivision or land development of a tract which includes an on-site Class I, Class I DOE or Class II historic resource identified on the Historic Resources Map.

A historic resource impact study shall be provided with future plan submissions, beginning with submission for preliminary plan review, as required by the Zoning Code Section 115-13.1. Lot 0115 of the proposed development contains a historic resource of a class mentioned above as indicated on the Historic Resource Map. *This comment has been acknowledged and the applicant will comply during preliminary plan submission.*

Subdivision and Land Development Ordinance:

26. **Section 95-24 – Sidewalks.** Sidewalks shall be provided for commercial, institutional or high-density residential development.

Although the proposed residential development may not fall into the category of high-density, due to the proximity of proposed townhouse buildings to one another the proposed development will feel as if it is of a high-density. It is recommended that the applicant provide sidewalks to promote pedestrian connectivity throughout the development and to areas of active recreation. *This comment has been acknowledged and the plans have been updated to show 4' wide sidewalks throughout the development.*

27. **Section 95-25 – Vegetation Preservation, management and compensatory planting.** The applicant must meet the requirements of this section with subsequent plan submissions beginning with the submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during preliminary plan submission.*

28. **Section 95-25.1 – Planting Requirements.** The applicant must meet the requirements of this section with subsequent plan submissions beginning with the submission for preliminary plan review. *This comment has been acknowledged and the Applicant will comply during preliminary plan submission.*

General Comments:

28. **Trails** – The plan should provide an interconnecting trail system for the proposed community as recreation element. *This comment has been acknowledged and the Applicant will consider the feasibility of adding another trail to the community.*
29. The existing knoll located east of Road A should be preserved to the greatest extent possible. Grading around this area should be minimized. *The site has been designed to minimize grading efforts in the location east of Road A as noted above.*

The above comments are provided as recommendations to the Planning Commission and Board of Supervisors. Please do not hesitate to contact me if you have any questions or require clarification regarding the above comments.

Respectfully,
GLACKIN THOMAS PANZAK

Lisa L. Thomas, RLA, AICP, LEED AP
Principal

EAST BRADFORD TOWNSHIP

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Board of Supervisors:
Dr. Thomas A. Egan
Vincent M. Pompo, Esq.
Mr. John D. Snook

MEMORANDUM

DATE: November 23, 2015

TO: Planning Commission

FROM: Mark J. Lucas **MJL**

RE: **Review of the 91 Homes Sketch Plan for the Tigie Tract, TMP #s 51-007-115, 51-007-135 and 51-007-136 (Initial Submission, ESE Consultants, Inc., Jeffrey M. Madden, P.E.)**

Introduction

A Conditional Use Plan has been submitted for the referenced parcels located on the north and south side of Tigie Road, at the western end of Tigie Road near the intersection of Tigie and Lenape Roads. The parcels are located in the R-2, R-3 and R-4 Residential Zoning Districts and are approximately 86 acres in collective area (hereinafter the "site"). The existing site contains two single family homes and accessory structures, accessed via a common driveway from Tigie Road. Existing ground cover around the dwellings is typical farm setting landscaping. Outlying portions of the site contain woodlands and pasture areas.

Topography on the site is generally moderately to steeply sloping from a ridgeline located on the section of the site north of Tigie Road. The ridgeline drains to two branches of Plum Run that join on tax map parcel 51-007-135, where a dam once existed. Existing soils boundaries are shown on the plan, but a table indicating limitations for site construction is not provided. Generally, the upland soils demonstrate to be more suitable for construction than the soils located near the streams. The proposed layout attempts to avoid areas of unsuitable soils. Wetlands are delineated on the plan and are located in areas near the existing streams.

The applicant, Toll Brothers, Inc., is proposing to subdivide the tract into 26, 1/3 acre (+/-) residential lots for single family homes, 1 lot containing the existing farm house and 64 condominium style townhomes (no lots) in groupings of 3 to 4 units, plus open space using the Open Space Development Option. The lots are proposed to be serviced by public sewers that exist on the south side of Tigie Road and public water.

The following information was submitted for review:

A plan entitled "Conditional Use Plan – Tigie Tract", Sheet 1 to 4 of 4, prepared for Toll PA VI, L.P., prepared by ESE Consultants, Inc., dated October 5, 2015 with no revisions. This plan is sealed by Jeffrey M. Madden, P.E.

A report entitled "Environmental Impact Assessment", prepared for the Tigue Property, prepared for Toll PA VI, L.P., prepared by ESE Consultants, Inc., dated October 5, 2015 with no revisions. This report is not sealed by a design professional, but is certified by the preparers of the report.

Presented below is commentary on the Conditional Use Plan, reviewed for conformance with the Code of the Township of East Bradford and general facilities design practices that normally can be discerned with the information included on a conditional use plan submission.

Status of Township Staff/Consultant/Agency Reviews

1. **Zoning** – official review completed by Brenden Beaumont. Official review previously issued. General Zoning comments related to site development/layout provided below.
2. **Landscaping** – no submission required during conditional use plan phase.
3. **Sanitary Sewer** – no submission required during conditional use plan phase. General comments provided below.
4. **Lighting** – no submission required during conditional use plan phase.
5. **Chester County Planning Commission** – review previously issued.
6. **Chester County Conservation District** – NPDES permit submission not required during conditional use plan phase.
7. **Pennsylvania Department of Transportation** – No submission required during conditional use plan phase.
8. **Pennsylvania Department of Environmental Protection** – No submission required during conditional use plan phase.
9. **Aqua Pennsylvania** – No submission required during conditional use plan phase.

Zoning Ordinance

EBT Code Section 115-43: Steep slope conservation district.

1. **115-43.D(3)(b)**: There is one area of Road A that is within areas of prohibitive slopes (> 30% gradient) that does not appear to comply with this section, since the areas they access appear to be accessible without disturbing prohibitive slopes. The curvature of the roadway may be able to be adjusted to avoid this area. ***This comment has been acknowledged and the plans have been updated to reflect a revised road alignment to avoid the area of prohibitive slope in question.***
2. **115-43.D(3)(c)[1]**: Road A traverses steeply sloped areas (20 – 30 percent). Road A is proposed to provide additional access to the site presumably to enable development beyond the single access street maximums listed in Section 95-18.A of the Code, as it appears to have no other use in accessing the proposed improvements, other than the recreational area, which could be relocated. A second access is necessary to develop the tract to the proposed density. The only roadway alignment that would not impact steep slopes likely would negatively impact the historic resource on the tract. ***This comment has been acknowledged and the Applicant***

agrees with the above summary with the inclusion that Road A will also provide road frontage to create a 1-Acre lot for the existing historic home.

3. **115-43.D(3)(c)[2]:** Lots 1, 5, 13, 14 and 21 contain steeply sloped areas. This section limits disturbance of those areas to 50% of the ground area of a single family dwelling. The disturbance counted against the 50% permitted includes any grading necessary to construct the dwelling on the lot. Compliance with this section may be difficult on those lots and must be demonstrated during the conditional use hearing. ***This comment has been acknowledged and the Applicant notes that the reviewer made a typo and intended to note Lots 6, 7, 13, 14 and 21 as containing steeply sloped areas. A grading plan for these areas will be prepared and presented at the conditional use hearing to demonstrate compliance with the allowable disturbance permitted.***
4. **115-43.D(3)(d):** Lots 1, 5, 13, 14 and 21 contain steeply sloped areas. This section limits impervious coverage on those lots to 50% of the maximum amount permitted by Zoning, in this case, the provisions for the Open Space Development Option. Compliance with this section may be difficult on those lots and must be demonstrated during the conditional use hearing. ***This comment has been acknowledged and the Applicant notes that the reviewer made a typo and intended to note Lots 6, 7, 13, 14 and 21 as containing steeply sloped areas. A grading plan for these areas will be prepared and presented at the conditional use hearing to demonstrate compliance with the allowable impervious coverage permitted.***

EBT Code Section 115-45.3: Riparian buffer area (RBA) conservation district.

5. **115-45.3.C:** The RBA delineation appears to be incorrect, as it does not appear to address the impaired status of the branches of Plum Run adjacent to the development. That aspect may have an impact on the ability to develop the lots adjacent to the streams. ***This comment has been acknowledged and the plans have been revised to reflect the impaired status of Plum Run and the un-named tributary and the additional buffer area required per the ordinance.***

EBT Code Section 115-49: Open space development option.

6. **115-49.B(2)(b):** A tot-lot, tennis court and pavilion are proposed active recreational uses for the development. The applicant must demonstrate that the area allotted for the facilities meets the recreational open space requirements established by the Code. ***This comment has been acknowledged and the open space plan has been updated to show the required amount of active recreation land in the open space area.***
7. **115-49.C(3)(o)[1]:** The applicant must demonstrate suitable private yard areas for single family dwellings and all customary accessory structures. Due to the steep slope requirements noted above, some lots may not be able to demonstrate the ability to install sheds, pools, decks, and other accessory uses customary to single family home ownership. ***This comment has been acknowledged and the Applicant is aware of the potential issues noted. During the preliminary plan submission, the applicant will determine the suitability of accessory uses on a per lot basis.***
8. **115-49.C(3)(o)[5]:** This section establishes impervious coverage limitations for each lot, which is to be apportioned equally among all residential lots in the tract. However, some single family dwelling lots will be located in the steep slope conservation district, further limiting the impervious coverage that can be installed on them. This aspect may render some of these lots difficult to improve, particularly with accessory uses, which may create a situation of perceived

hardship for future owners, since they will not be able to improve the value of their lots to the extent others in the community can. ***This comment has been acknowledged and the Applicant will make all buyers aware of any impervious restrictions on the lot at the date of sale.***

9. **115-49.C(3)(q):** This section requires provisions for active recreation be incorporated into the development unless the Board permits a fee in lieu of. Active recreation does not include trails and pathways, nor do these facilities factor into a fee in lieu of calculation. The applicant must demonstrate compliance with this section during the conditional use hearing. ***Pursuant to the formula noted in §95-34.1.D(1), the Applicant has provided 2,000 square feet per dwelling unit of required active recreation land in which a tennis court, tot-lot and pavilion are proposed.***

EBT Code Section 115-51: Environmental impact assessment.

10. **115-51.C(1)(I):** The stream flow testing/ pollutant analysis required by this section was not provided in the report. This information also may be available from West Chester University and the Red Clay Creek Coalition (formerly Brandywine Valley Association), who have done this type of testing on Plum Run on a continual basis. ***This comment has been acknowledged and the Applicant has provided the testing results for the pollutant analysis in a revised EIA report.***
11. **115-51.C(4)(b and c):** These sections require the assessment to identify rare, threatened and/or endangered species, including both plants and animals and habitats that may be unique to the Township or in need of special protection or consideration. The assessment indicates that these items will be identified during the project PADEP permitting phase, which would occur after the project is approved. These items must be identified during the conditional use phase, via the Pennsylvania Natural Diversity Index as they may impact the density of the development and/or development layout. The Township also completed a study of vegetative diversity within the past 5 years that also may be helpful in meeting this requirement. ***This comment has been acknowledged and the PNDI report has been included with the revised EIA report.***
12. **115-51.C(5):** This section requires the assessment to identify areas of known environmental impact, such as stream pollutants and eroded stream embankments via photographic evidence and laboratory analysis. The assessment indicates that no such areas were identified after visual inspection of the site. Visual inspection does not meet the requirements of the ordinance and the embankments of both branches of Plum Run are generally eroded from their origin in West Chester Borough to the confluence with the Brandywine River. Township staff visual inspection of the existing sewer line located in the parcel south of Tigue Road in the Summer of 2015 indicated substantial stream bank erosion. This must be noted and documented with photographic evidence for all streams located on the parcels proposed for development. ***This comment has been acknowledged and the EIA report has been revised to include photographic evidence of the eroded stream banks along Plum Run and its Un-named tributary.***
13. **115-51.D(1):** The identification of the historic resources located on the property was not included in the report narrative as required. ***This comment has been acknowledged and the EIA report has been revised to identify the historic resources in a narrative. The Applicant has also provided a historic survey prepared by Chester County for the project site.***
14. **115-51.D(2)(a through f):** The stormwater analysis required by this section is not included in the assessment, because the stormwater design was not completed as part of the conditional

use application. The stormwater design and sizing of facilities as required by this section may impact the density of development, since stormwater areas must be deducted from net tract area. ***This comment has been acknowledged and the EIA report (as well as the plans) has been updated to include a stormwater analysis with more accurate sizing of stormwater facilities.***

15. **115-51.D(3)(d):** The visual analysis of the impact of the development on changed vistas was not provided in the assessment as required by this section. ***This comment has been acknowledged and the EIA report has been revised to include a view-shed exhibit on changed vistas.***
16. **115-51.D(7):** A wetlands report as required by this section was not included in the assessment. A wetland delineation was completed and is shown on the plan, but has not been confirmed by the Army Corps of Engineers at this time. This aspect also may impact the density of the development and/or the layout, since certain aspects of the riparian buffer area delineation are related to the wetlands boundary. ***This comment has been acknowledged and the applicant is still awaiting a response from the Army Corp. The EIA report has been revised to include a summary of the report. A copy of the full report has been printed and given to the Township Engineer. A copy of the full report may also be found on the disc that was sent in with this submission.***
17. **115-51.D(8):** The Impact identification/Description/Remedy table required by this section is not included in the assessment. There are several potential impacts common to this type of development and a meeting with the preparers prior to the any revised submissions would be prudent. ***This comment has been acknowledged and the EIA report has been revised to include the identification/negative impact/remedy table as requested.***
18. **General:** The assessment indicates that invasive material will be removed in areas that are proposed for vegetative removal as remediation in those areas. Open space by definition is to be accessible and usable year round for common enjoyment and recreation. If the open space is occupied by invasive vegetation rendering it unusable or inaccessible, the invasive vegetation must be removed in all areas of open space as well as those areas proposed for development. Visual and field inspection of the site during inspections of the sanitary sewer line identified several areas that are not only inaccessible, but are impenetrable due to invasive vegetation such as multiflora rose and autumn olive. ***This comment has been acknowledged and the Applicant is aware of potential invasive plant clearing.***

Subdivision and Land Development Ordinance

EBT Code Section 95-17: Street system.

19. **95-17.D:** The proposed roadway configuration from Tigie Road to Lenape Road may create a thoroughfare situation for traffic outside the development, particularly with westbound traffic on Tigie Road intending to travel north on Lenape Road, if Tigie Road remains in its current configuration (a two lane local through road). Similar situations in the Township have generated numerous complaints from residents within the development due to speeding and excess volume. Provisions to address this potential problem should be discussed during the conditional use hearings. ***It is the Applicant's opinion that the proposed internal roadway network is designed in such a way to eliminate a direct cut-thru between Lenape Road and Tigie Road by providing two internal intersections which will calm traffic and discourage cut-thrus.***

20. **95-17.I:** The entrance from Lenape Road will require acquisition of a Highway Occupancy Permit from PennDOT. *This comment has been acknowledged. A Highway Occupancy Permit will be obtained from PennDOT during full engineering of the site.*
21. **95-17.J:** The applicant's intention for potential dedication of the roadways should be provided to the Township as soon as possible. *This comment has been acknowledged and the plans have been revised to note that the internal roads will be offered for dedication to the Township.*

EBT Code Section 95 –18: Cul-de-sac and single access streets.

22. **95-18.A:** Road D is less than the required 250 feet in length, if the roadways are intended to be dedicated to the Township. Roadways less than 250 feet in length cannot be used to obtain additional liquid fuels funding from PennDOT. *This comment has been acknowledged and Road D has been revised to exceed the required 250' length in order to obtain additional liquid fuels funding.*

EBT Code Section 95 –21: Street grades.

23. **95-21.B:** Compliance with maximum street centerline grades likely will be difficult, particularly at the Road A entrance from Tigue Road. *The Applicant will comply with maximum street centerline grades during the preliminary plan submission.*
24. **95-21.D:** Due to the existing topography and presence of steep slopes, achieving the required leveling areas at the proposed intersections while meeting other roadway slope requirements may be difficult. *This comment has been acknowledged and the Applicant will demonstrate compliance with the required leveling areas at the proposed intersections during the preliminary plan submission.*

EBT Code Section 95 –24: Sidewalks.

25. **95-24.A:** Sidewalks are required to provide connectivity to West Chester University due to the proximity of the development to the institutional use. *This comment has been acknowledged and the Applicant has revised the plans to show internal sidewalks connecting to the trail along Tigue Road to provide connectivity to West Chester University*

EBT Code Section 95 – 26: Stormwater Management.

26. **95-26:** A stormwater management plan prepared in compliance with Chapter 94 of the Code will be required for the project. The plan must be prepared assuming the maximum impervious coverage permitted by Zoning for the entire project and must be developed using the Soil Conservation Service Method for all stormwater management volume calculations. The Rational Method may be used for estimating peak flows for stormwater conveyance design only.

While the conditional use plan requirements do not specifically require this plan to be developed during the conditional use phase, the sizes of stormwater facilities impact area and bulk calculations that are required to be determined during the conditional use plan phase that may impact overall density. In developing a plan, the applicant must thoroughly review Chapter 94 of the Township Code to determine if the tract is located in any "hot spots" or similar areas as defined by the ordinance, to incorporate additional practices required in those type of situations.

This comment has been acknowledged and the Applicant has begun the preliminary design of storm water facilities to provide more accurate sizing of proposed basins so as not to affect the overall density. The basins were designed with the assumption of the maximum impervious coverage allowed by Zoning. The applicant will prepare a full stormwater management plan in accordance with Chapter 94 of the Code beginning with the preliminary plan submission.

27. **95-26:** Piped Road B and Road C and adjacent lot discharges to Basin 3 likely will need to traverse steeply sloped areas either overland or via piping, both of which will cause disturbance and/or erosion of the steeply sloped areas. In addition, the Basin 3 discharge, both primary and emergency spillway will discharge to Tigue Road, which does not have an adequate drainage system to accommodate the discharges. Offsite improvements may be necessary to accommodate the proposed discharges. ***This comment has been acknowledged and the Applicant is aware of these potential issues. The Applicant will provide a greater level of detail in terms of storm piping locations beginning with the preliminary plan submission.***
28. **95-26:** No stormwater management facilities are proposed to accommodate the Road A discharges to Tigue Road. Stormwater management must be accomplished prior to runoff exiting the property boundary. Both onsite and offsite improvements likely will be necessary to capture unmanaged flows from this area to Tigue Road. If these improvements fail or the design storm is exceeded, flows from Road A will be directed down slope to Carriage Homes numbers 4 through 7, inclusive. An overland flow relief path must be provided to convey flows around these units. ***This comment has been acknowledged and the Applicant is aware of the storm water measures required to provide relief to Road A. Beginning with the preliminary plan submission, the Applicant will prepare a stormwater management plan which will detail any necessary improvements required to capture run-off from Road A.***

EBT Code Section 95 – 29: Sanitary sewers.

29. **95-29.A:** The project is proposed to be serviced by public sewers and is required to be per Section 95-29.D(1). The sewage treatment plant (Goose Creek) has the capacity to service the proposed number of units. However, the existing Strode's Mill Pumping Station has experienced two overflows in the past year, presumably due to high levels of inflow and infiltration during and after heavy rainfall. The Township has completed a study of the system and removed one significant inflow source and several sources of infiltration. The tributary piping system and pumping station must be analyzed for the proposed additional flows to ensure station capacity and that the additional flow to the tributary piping does not create a surcharged condition in the manholes. ***This comment has been acknowledged and the Applicant has discussed these issues with the Township engineer and awaits further information from the Township regarding the sufficiency of the tributary piping system and pumping station.***
30. **95-29.A:** The project is proposing a new sewage pumping station near the intersection of Road C and Lenape Road. The applicant must indicate the intent of the ownership and maintenance of the pumping station (municipal or public for the use of the development only). A municipal pumping station installed in this area could potentially service the Darlington Drive community, where inadequate septic systems have been experienced with no area for replacement systems on the subject lots. This potential should be investigated during the conditional use hearings. If the pumping station will remain private, ownership and maintenance responsibilities and provisions must be presented during the conditional use hearing. Regardless, the pumping station will require a permit from PADEP.
31. **95-29.A:** The existing sanitary sewer maintenance and repair easement on the sewer line located on TMP 51-007-136 may impact the development of Lots 2, 3 and 4, as well as Basins 6

and 7. ***This comment has been acknowledged and the plans have been revised to show the location of the existing sanitary sewer easement. The locations of Basins 6 and 7 as well as Lots 22-26 have been revised accordingly.***

EBT Code Section 95 – 30: Water supply.

32. **95-30:** The project is proposed to be serviced by public water supply. The applicant will need to furnish a letter from the Aqua Pennsylvania indicating that the water company has the capacity to service the development. ***This comment has been acknowledged and the applicant has provided a letter from Aqua Pennsylvania to the Township.***

EBT Code Section 95 – 34.1: Recreational and open space land.

33. **95-34.1.A:** The applicant must submit calculations demonstrating that the proposed recreational open space land complies with the ordinance requirements. ***This comment has been acknowledged and the Applicant has revised the open space plan to show the total amount of recreational land required per dwelling unit.***

EBT Code Section 95 – 35: Earth disturbance.

34. **95-35.B(1)(b):** The project will require a general NPDES permit from PADEP, and a grading permit prepared in accordance with Chapter 90 of the Township Code (which is included with the land development approval). All Township commentary must be adequately addressed before approval of the plan is recommended (a County or PADEP approval does not represent satisfaction of Township requirements or supersede any Township commentary). ***This comment has been acknowledged and the Applicant is aware of the required permits.***
35. A description of the soils and their limitations must be added to the plans, per the conditional use plan requirements listed in Section 115-77.F(3)(a)[4 and 6]. ***This comment has been acknowledged and the plans have been revised to include the soils descriptions on-site.***

General Commentary

36. The plan is unclear as to the outcome of the existing historic structures located on the north side of Tigue Road. The applicant should indicate the intentions for these structures. ***This comment has been acknowledged and the plans have been revised to indicate the intentions for these structures. The intentions for these structures may change based upon the completion of a historical resource impact study.***
37. The portion of the project located on the northern side of Tigue Road contains many ridgelines and drainage divides. To avoid transferring drainage from one drainage divide to another and concentrating stormwater flows, multiple facilities likely will be necessary, perhaps more than that shown on the plan. Additional facilities may impact the project density. ***This comment has been acknowledged and it is in the opinion of the Applicant that the current number of storm water facilities proposed will suffice based off of a preliminary storm water analysis.***
38. Areas for visitor parking and parking for the active recreational area are not shown on the plan. These areas will be needed for practicality in the areas proposed for townhouse development

and should be included in the stormwater management design. ***This comment has been acknowledged and the plans have been revised to include additional visitor parking in the carriage home development. Parking has also been added for the active recreational components.***

39. The applicant must submit evidence for the determination that the man-made slopes shown on the plan are man-made. The Township accepts archival plans, photographs, soil borings and practical field observations confirmed by the Township Engineer as suitable evidence. ***This comment has been acknowledged and evidence of the man-made slopes in the form of photographs are submitted with the project narrative***
40. Any stormwater management outfall piping into the streams will require the applicable General Permits or waiver of permit indication (at a minimum) to be obtained from the PADEP. In addition, if these utilities cross riparian buffer areas, they may require further conditional use approvals that should be acquired during the current hearing process. ***This comment has been acknowledged and the Applicant has submitted additional plans requiring further conditional use approval. The plans propose placing storm water facilities in Zone-2 of the riparian buffer area as well as locating sanitary tie-ins to the existing sanitary easement on the Southern parcel in Zone-2 of the riparian buffer.***
33. Practically all of the current open space developments in the Township experience “creep” into the open space by the residents from the private lots and trail systems (mowing, installation of bird feeders, statues, jungle gyms, yard waste, etc.), resulting in numerous complaints to the Township by the abiding residents. A means to prevent this phenomenon must be incorporated on the plan and/or the open space management plan. Currently, community fencing around the open space has been incorporated on one of the developments, with success. ***This comment has been acknowledged and the Applicant will provide for a decorative feature at property line corners to help prevent the “creep” into open space.***
34. Depending on the materials used for the walking trail and the amount of grading necessary for installation, stormwater management may need to be incorporated for those in the design. ***This comment has been acknowledged and the Applicant will address the materials during the preliminary plan submission to determine if there is any need for stormwater additional management.***

Conclusions/Recommendation

The unknown extent of the stormwater management facilities, riparian buffer area and sanitary sewer easement may impact the layout of the project and could result in reduced density. These issues must be addressed during the conditional use hearing. Due to these unknowns, I cannot make a recommendation on the plan as submitted, as addressing those unknowns may impact the overall layout. All of the aforementioned commentary should be discussed as part of the conditional use hearing process.

The most important physical development issue is the capacity of the existing municipal sewage pumping station and how the applicant will accommodate additional flows to the station. The service area potential of the proposed sewage pumping station near Lenape Road also is a significant future planning issue that should be addressed during the conditional use hearing.

While the intent of the review is to be comprehensive to the extent possible for a conditional use plan, revisions necessary to address the aforementioned commentary may generate additional comments and/or reveal additional oversights or omissions contained within the currently submitted plan.

Copy:

Environmental Advisory Council
Parks and Recreation Board
Historical Commission
Green Committee
Michael Lynch
Mandie Cantlin
Brenden Beaumont
Ross Unruh
Andrew Semon
Lou Collegreco

Date: November 3, 2015

To: Mark Lucas, P.E.
East Bradford Township Engineer

From: Amy Kaminski, P.E., PTOE
G&A Transportation Services Manager

cc: Mandie Cantlin, Assistant Township Manager Matthew E. Shinton, G&A E.I.T.

Reference: Conditional Use and Sketch Plan Review
TPN 51-7-115, 51-7-135, and 51-7-136
945 Tigie Road (T-359)
East Bradford Township, Chester County

G&ANo.15-10030

Pursuant to your request, Gilmore & Associates, Inc. has completed a transportation review for Conditional Use at 945 Tigie Road in East Bradford Township, Chester County. Presently, the three referenced parcels comprised of 86 acres are zoned R-2, R-3, and R-4. The applicant proposes to develop the site for 90 new units with 1 existing dwelling unit for a total of 91 residential dwelling units as follows: 26 single-family detached dwelling units and 64 carriage homes/townhouses and one existing single-family detached dwelling unit. Access for the proposed development will occur via a new single access road on Lenape Road (S.R. 0052) and two access roads to Tigie Road (T-359). The East Bradford Township Planning Commission will hear the conditional use application on October 27, 2015 at 7:30 PM.

I. Reviewed Materials

- A. Memorandum *Request for Review and Comment* from Mandie Cantlin, Assistant Township Manager, dated October 7, 2015, accompanied by various submission materials.
- B. Conditional Use Application to the Board of Supervisors of East Bradford Township, Chester County, Pennsylvania for Conditional Use hearing, dated October 5, 2015.
- C. Conditional Use Narrative dated October 5, 2015
- D. Existing Conditions plan, *Tigie Tract*, prepared for Toll Brothers, Inc., prepared by ESE Consultants, Inc., dated October 5, 2015, consisting of one sheet.
- E. Conditional Use Plan, *Tigie Tract*, prepared for Toll Brothers, Inc., prepared by ESE Consultants, Inc., dated October 5, 2015, consisting of four (4) sheets.
- F. *Transportation Impact Study for Tigie Property Residential Development*, prepared for Toll Brothers, prepared by McMahon Associates, dated October, 2015.

II. Zoning Comments

- A. §115-47.1 Lenape Road (S.R. 0052) and Tigie Road (T-359) are classified as scenic roads as outlined in the East Bradford Township 2009 Open Space, Recreation and Environmental Resource Plan. Requirements within this section include limiting the disturbance and removal of existing roadside vegetation, sign sizing regulations and drainage mitigation design. The Applicant shall revise plans to ensure compliance with all subsections.

Response: *This comment has been acknowledged and the current site plan was designed to limit the removal of existing roadside vegetation. Sign sizing along Lenape Road and Tigie road will be designed as required by PennDOT and drainage mitigation design will be addressed during the preliminary plan submission.*

ESE Consultants, Inc.
250 Gibraltar Road · Suite 2E · Horsham, PA 19044

- B. §115-56.C.2 The applicant shall demonstrate during the land development approval process, by the use of electronic truck turning templates, that emergency vehicles can negotiate all interior circulation patterns without the need to traverse upright curbing, mountable curbing areas consisting of installed signage opposing lanes of traffic, parking stalls, etc. The Applicant shall provide turning templates for a sanitation truck, fire truck and the largest vehicle participated to utilize the development.

Response: *The road network, as shown on the plan, has been designed per the Township Code specifications, which the Applicant believes are sufficient. Turning templates will be provided by the Applicant at the conditional use hearing demonstrating that sanitation, emergency and pedestrian vehicles can move through the site.*

- C. §115-58.A Single-family residential parking controls. A minimum of three parking spaces with proper and safe access from a street or alley shall be provided on each lot, either within a structure or in the open, to serve the dwellings within the district adequately. Parking spaces for one vehicle shall be at least 10 feet by 20 feet in size. Parking spaces shall have an approved all-weather surface and shall have safe and convenient access in all seasons. The Applicant shall show compliance with this requirement.

Response: *This comment has been acknowledged and the plans are designed to demonstrate compliance with this Township Code.*

- D. §115-58.B.2.5.A Two-family, Four-family or single-family attached dwellings require 3.5 parking spaces per dwelling unit. The applicant shall demonstrate compliance with this section of the zoning ordinances in order to adequately provide parking throughout the development. Of particular concern is the R-4 zone south of Tigie Road (T-359); the proximity of the attached dwelling units to Tigie Road (T-359) could cause an overflow parking condition encourage motorists to utilize Tigie Road shoulders for parking without a permit which is prohibited in accordance with §115-47.1.

Response: *This comment has been acknowledged and the plans are designed to demonstrate compliance with this Township Code. The plans have also been updated to include additional visitor parking located in both R-4 zones to help ease any potential issues with overflow parking.*

III. Subdivision and Land Development Ordinance Comments

- A. §95.16.E.2 The minimum distance between access points along collector and arterial roads shall be 400 feet between local roads. The center to center distance between Road A and Road E along Tigie Road (T-359) appears to be less than 400 feet; the applicant shall revise the plans to provide the minimum required distance between the roadways or a realignment to create a four leg intersection.

Response: *This comment has been acknowledged and the Applicant notes that Tigie Road is defined as local road on multiple Township maps thus negating the need for a 400' separation between Road A and Road E.*

- B. §95.16.E.4 Coordination with Pennsylvania Department of Transportation (PennDOT).The Township has an arrangement with PennDOT whereby access permits will not be reviewed by the Department unless the application includes a letter from the Township acknowledging the proposal. Additionally, in order to facilitate township review of the HOP submission, the Applicant shall include Gilmore & Associates as an "Engineering Firm" or the Township designee on the permit application within the PennDOT ePermitting System. The Applicant shall obtain township correspondence prior to the initiation of an HOP.

Response: *This comment has been acknowledged and the Applicant will comply on future submissions.*

- C. §95.17.I All entrances onto township or state roads shall require an appropriate highway occupancy permit and shall be constructed to state specifications. The Applicant shall obtain all necessary permits and approvals for entrance onto township and state roadway facilities.

Response: *This comment has been acknowledged and the Applicant will comply on future submissions.*

- D. §95.17.J.1 Private streets may be permitted by the Board under the following circumstance; there is a recorded agreement between the Applicant and the Township specifying that said streets will not be offered for dedication and will not be accepted by the Township unless constructed to Township standards existing at the time of the offer of dedication. If the roadways within the development are to be offered for dedication to the township the roadways must be constructed in accordance with SALDO §95.19-24.

Response: This comment has been acknowledged and the Applicant is proposing the internal road network to be offered for dedication to the Township. The Applicant will comply with the noted SALDO section.

- E. §95.17.K The Board may require the developer to make improvements to existing abutting streets or roads as may be needed to provide safe and convenient access to the proposed development and to accommodate the increased traffic resulting from the development. According to the submitted plans Lenape Road currently has a 24.3' cartway width and Tigue Road (T-359) has a 16.5-18' cartway width. This section of the ordinance allows the Board to require an increased cartway for streets that do not provide the minimum widths as outlined in §95.19.A and construct auxiliary lanes as warranted.

Response: This comment has been acknowledged and the Applicant has revised the plans to note that Tigue Road will be widened to 20' along the project boundary as required by §95.19.A regarding New Street Width. As for Lenape Road, §95.19.A notes, regarding New Street Width, the travel lane for a minor arterial shall be 12' or PennDOT standard. Lenape road meets this requirement at 24.3'.

- F. §95.17.L Scenic road requirements. Lenape Road (S.R. 0052) and Tigue Road (T-359) are classified as scenic roadways as outlined in the East Bradford Township 2009 Open Space, Recreation and Environmental Resource Plan. The Applicant shall revise the plans to show compliance with this section of the ordinance and it shall be the burden of the applicant to demonstrate that any proposed disturbance is the minimum necessary to provide safe ingress and egress in an attempt to retain the scenic features of both Lenape Road (S.R. 0052) and Tigue Road (T-359).

Response: The current site design indicates compliance by minimizing site disturbance while complying with both Township and PennDOT site distance requirements.

- G. §95.19.D The 2004 Comprehensive Plan identifies the Functional Classification of Lenape Road (S.R. 0052) as a Minor Arterial and Tigue Road (T-359) as a Local/Local Distributer. The reviewed plan notes Lenape Road currently has a 24.3' cartway width and 33' right-of-way; and Tigue Road (T-359) has a 16.5-18' cartway width and a 33' right-of-way. This section of the ordinance requires the applicant shall provide, for dedication, the minimum right-of-way widths for subdivisions abutting existing streets and minimum travel lane widths; therefore, Lenape Road will require 80 feet of right-of-way and a consistent 24' travel lane width; and Tigue Road (T-359) will require a 50' right-of-way and a consistent 20' travel lane width to be dedicated to the Township.

Response: This comment has been acknowledged and the Applicant has provided the required right-of-way widths along both Tigue, and Lenape Roads.

IV. 2004 Comprehensive Plan Transportation Comments

- A. Chapter 4 *Future Land Use* identifies "preserving the rural character of Tigue Road" as a principal tenant of the Comprehensive plan. The intensity of the development on both the north and south side of Tigue Road does not keep the spirit of a rural road. The Applicant should consider concentrating all development of the north of Tigue Road in order to preserve the rural nature of the roadway.

Response: This comment has been acknowledged and the Applicant has prepared a view-shed exhibit showing visual impact of development on the North side from both Lenape, and Tigue Road. The Applicant will provide for a vegetative buffer along the tract perimeter with landscaped berms being proposed for the Southern parcel. This buffering will be provided with preliminary plan submission. The Applicant notes that concentrating development to the North parcel only would require increased disturbance of steep slopes, prime agricultural soils as well as additional vegetative clearing, all in contradiction to existing township zoning requirements.

- B. Chapter 5 *Transportation "Future Project and Study Recommendations"* item 1 includes a discussion regarding opposition by East Bradford Township for the eventual extension of Tigue Road (T-359) to US 202. Any development of these parcels including direct access to Tigue Road deviates from the intent identified in the East Bradford Township 2004 Comprehensive Plan. The Applicant should consider concentrating all development to the north of Tigue Road with primary access of the development to and from Lenape Road (S.R. 0052) in order to preserve the rural nature of Tigue Road.

Response: As noted above, the Applicant will improve Tigue Road as required for a local street in East Bradford Township. With this improvement, there is no public welfare or safety reason that the density permitted by ordinance can't be accommodated. The concentration of density on the North parcel along with limiting access to Lenape Road is not sound planning and would violate Township Code §95-18.A regarding permitted density on a single-access road.

V. Town of East Bradford Official Map (dated August 14, 2012)

- A. The Township official map identifies a future trail along Tigie Road (T-359) and includes a cul-de-sac terminating Tigie Road just east of TPN 51-007-0115-01. As such all development activities should be mindful that Tigie Road is intended to become a dead end street. The Applicant should design the site accesses and site circulation to incorporate the potential configuration of Tigie Road (T-359) in the future. Concentration of development to the north of Tigie Road (T-359) with access onto Lenape Road (S.R. 0052) should be considered.

Response: The Applicant has designed the site so that should the Township, in the future, determine to terminate Tigie Road with a cul-de-sac, the proposed plan would be compliant with Township and PennDOT criteria as applicable.

January 19, 2016

Mr. Mark Lucas, P.E.
Township Engineer
East Bradford Township
666 Copeland School Road
West Chester, PA 19380

RE: Response to Comments
Tigue Road Residential Subdivision (Toll Brothers, Inc.)
East Bradford Township, Chester County, PA
McMahon Project No. 815336.11

Dear Mr. Lucas:

McMahon Associates, Inc. offers the following responses to the review letter authored by Gilmore & Associates, Inc., dated November 3, 2015 for the above referenced project. In addition, enclosed is a revised Transportation Impact Study (TIS), dated January 2016, which addresses these comments. The comments are indicated in *bold/italics*, with responses below each comment.

It should be noted that items identified in Sections I through V will be addressed in a separate document by the Applicant.

VI. Transportation Impact Study Comments (Page 4)

A. The Transportation Impact Study (TIS) and conditional use plans are not consistent as follows:

- 1. The TIS identifies the development as "an age-targeted residential development" and "senior adult housing"; however, the provided plans and application documents identify the use as 26 single-family detached dwellings and 64 carriage homes (townhouses). The trip generation rates associated with a senior adult housing is significantly less than an unrestricted residential development; verify and revise either the plans or the TIS for consistency.*

Will comply. The TIS has been revised to reflect a consistent land use and density as compared to the provided plans and application. The Applicant proposes 26 market-rate single-family dwelling units, maintaining the 1 existing single-family dwelling unit currently on site, and 64 senior-adult carriage homes

PRINCIPALS

Joseph W. McMahon, P.E.
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Maureen Chlebek, P.E., PTOE

(attached townhouse dwellings). The resultant trip generation and subsequent volumes and analyses are reflected in the revised TIS.

2. *The TIS includes a minimum of three access roads to Tigie Road (T-359) and proposes a possible fourth access road to Lenape Road (S.R. 0052); however, the plans include two access roads to Tigie Road (T-359) and a third access road to Lenape Road (S.R. 0052). Again, the TIS and plans must be consistent; verify and revise either the plans or the TIS for consistency.*

Will comply. The TIS has been revised to reflect consistent access as compared to the provided plans and application. Scenario 1 contained in the revised TIS indicates two access roads to Tigie Road and one access to Lenape Road, consistent with the provided plan and application. Scenario 2 contained in the revised TIS indicates analysis of two access roads to Tigie Road and no access to Lenape Road. The Applicant anticipates finalizing the access configuration based on future coordination with the Township. The resultant trip distribution and subsequent volumes and analyses are reflected in the revised TIS.

- B. *Smart Transportation Guidebook, March 2008, indicates the existing land use context is Rural Community Collector/Neighborhood Collector for Tigie Road (T-359) and Rural Regional Arterial for Lenape Road (S.R. 0052). In addition, Smart Transportation Guidebook directs applicants to consult with the municipal comprehensive plan to determine the community vision for roadway and corridor design. As outlined previously, the Township intends to maintain the rural nature of Tigie Road (T-359). Additionally, the Township may reconfigure Tigie Road in accordance with the East Bradford Township 2004 Comprehensive Plan to a cul-de-sac condition in the future.*

The plan, as presented, limits vegetative clearing along Tigie Road in an effort to maintain the rural nature. The plan has been designed that, should the Township determine that Tigie Road will terminate with a cul-de-sac, proposed traffic will still be able to operate in a safe and efficient manner.

- C. *We recommend the applicant revise the TIS as follows:*

1. *Revise Table 1 Existing Roadway Characteristics to include all studied roadway widths and average daily traffic volumes for Tigie Road (T-359).*

Table 1 has been revised to indicate the roadway width of Tigie Road. Average daily traffic volumes can be provided upon the opening of Birmingham Road.

2. *The Applicant shall include the intersection of Birmingham Road (S.R. 2001) and Lenape Road (S.R. 0052) in the TIS analysis.*

Based on a review of the traffic volumes along Lenape Road, the trip generation of the proposed development, and the anticipated trip distribution of the proposed site, the intersection of Birmingham Road and Lenape Road will experience a maximum of 24 new trips due to the development. This amounts to an increase of less than 2%, and does not satisfy PennDOT's typical policy of inclusion in the study area. In addition, Birmingham Road is currently closed and any counts at this intersection may understate current conditions.

3. *The Applicant should revise the trip distribution to account for all site traffic to utilize Lenape Road (S.R. 0052) in the anticipate that Tigie Road (T-359) will be converted to a cul-de-sac as proposed in the East Bradford Township 2004 Comprehensive plan.*

The Applicant intends to wait for direction from the Township as to the Township's desire for this cul-de-sac configuration.

4. *The applicant shall include a traffic signal warrant analysis for the intersections of both Lenape Road (S.R. 0052) & Tigie Road (T-359) and Lenape Road (S.R. 0052) & Birmingham Road (S.R. 2001).*

The TIS has been revised to include traffic signal warrant analysis at the intersection of Lenape Road and Tigie Road. Warrants are included in Appendix R. Traffic signal warrant analysis has not been conducted at the intersection of Lenape Road and Birmingham Road due to the current closure of Birmingham Road.

5. *The Manual Turning Movement (MTM) counts provided within the study were conducted on September 29, 2015. According to PennDOT, Birmingham Road (S.R. 2001) was closed on September 22, 2015 for emergency repairs to the bridge over Radley Run. Although the posted detour utilizes southbound Lenape Road (S.R. 0052) to Creek Road to access Street Road (S.R. 0926), it can be assumed that traffic traveling eastbound and traveling from the east on Street Road will utilize Tigie Road (T-359) and New Street to access eastbound Street Road (S.R. 0926). Accordingly, the volumes recorded for the intersection of Lenape Road (S.R. 0052) and Tigie Road (T-359) do not accurately reflect the existing turning movement traffic volumes. The Applicant shall contact the Township to determine the appropriate methodology to accurately show the turning movement volumes to Lenape Road (S.R. 0052) and Tigie Road (T-359).*

Mr. Mark Lucas, P.E.

January 19, 2016

Page 4

With the closure of Birmingham Road stated above, and the potential use of Tigue Road as the detour in lieu of the official detour of Lenape Road/Creek Road, the counts conducted on September 29, 2015, indicate higher traffic volumes at the intersection of Lenape Road and Tigue Road. Therefore, the TIS presents higher-volume/worst-case analysis as compared to normal conditions with Birmingham Road open. Therefore, the TIS presents a conservative approach with regards to traffic volumes and levels of service.

McMahon has enclosed a revised TIS for review by your office. Please feel free to contact me with any questions.

Sincerely,



John R. Wichner, P.E., PTOE
Senior Project Manager

JRW/agr

Enclosure

cc: Amy Kaminski, P.E., PTOE, Gilmore & Associates, Inc.
Andrew Semon, Toll Brothers, Inc.
Louis Colagreco, Esq., RRHC
Justin Barnett, ESE Consultants, Inc.
Aaron Real, McMahon Associates, Inc.