



TRI-STATE ENGINEERS AND LAND SURVEYORS, INC.

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May 30, 2019

Project No.: 15-06002 (MT-1303)

Mr. Patrick Duffy, P.E.
Director of Planning and Zoning
Middletown Township
3 Municipal Way
Langhorne, PA 19047-3424

RE: **Stone Farm (By-Right Plan)**
Preliminary Major Subdivision/Land Development Plan - 8th Review
Langhorne-Newtown Road & Tollgate Road
T.M.P. 22-005-007
Middletown Township, Bucks County PA
S/LD #15-08

Dear Mr. Duffy:

Tri-State Engineers and Land Surveyors, Inc. (TSE) has completed the 8th Review of a Preliminary Major Subdivision and Land Development Plans for the above referenced project. The submitted information included the following:

- Preliminary Land Development Plan for Stone Farm By-Right Plan (Metropolitan Development Group), prepared by Gilmore & Associates, Inc., dated September 12, 2016, last revised April 18, 2019, containing 105 sheets;
- Post-Construction Stormwater Management (PCSWM) Report for Stone Farm (T.M.P. 22-005-007), prepared by Gilmore & Associates, Inc., dated September 12, 2016, last revised April 18, 2019;
- Stone Farm Tollgate and Fulling Mill Road Improvement Plan set, prepared by Bogia Engineering, Inc., dated May 10, 2018, last revised February 14, 2019, containing 41 sheets;
- Highway Occupancy Permit Plans for Low Volume Driveways, SR 0413, SR 2033, EPS Application Number 98451, prepared by Bogia Engineering, Inc., dated November 15, 2017, last revised April 12, 2019, containing 73 sheets;
- PennDOT Stormwater Management Report with Township Road Supplement for Stone Farm Tract, prepared by Bogia Engineering, Inc., dated December 2017, last revised May 3, 2019.

GENERAL INFORMATION:

The Applicant/Equitable Owner for this project is Metropolitan Development Group (c/o Michael Tulio - 1030 Reed Avenue, Suite 100, Wyomissing, PA 19610). The Owner of Record of Land is Estate of Ezra C. Stone, Estate of Josef S. Stone and Francine Lida Stone. The site address is 1707 Langhorne-Newtown Road.

The Applicant is proposing to subdivide the 168.028-acre subject property into a 121-lot single-family residential development. The lots range in size from 24,000 square feet to 30,000 square feet or more. The existing residence and farm buildings will be retained on a 9.452-acre 'excluded parcel.' Approximately 43.52± acres of Other Open Space is proposed (divided among eight separate areas, Areas A through H) and four additional areas are designated as Open Space/Recreation Space that total 5.48 acres (where 4.17 acres is required). A 10' wide walking trail, buffer yards, protected resources, and eight (8) stormwater management basins are located within the 'Other' Open Space lots. This project is intended to be served by public sewer (Bucks County Water & Sewer Authority) and public water (Newtown Artesian).

The property currently contains various farmhouses, structures and stone driveways. The remaining majority of the property includes active farm fields, a riverine area that contains a tributary to Lake Luxembourg and several smaller channels. A large area of the project site will be conserved near Lake Luxembourg as required by an existing conservation easement. The site also contains wetlands that were delineated by Nova Consultants Inc. This property is located within Flood Zone 'A' per FEMA Map entitled 'FIRM – Flood Insurance Rate Map, Bucks County, PA (All Jurisdictions), Panel 434 of 532, Map Number 42017C0443J, effective March 16, 2015.

The site has frontage on Langhorne-Newtown Road (S.R. 0413), Tollgate Road and Fulling Mill Road. The Applicant is proposing four (4) new access points onto adjoining roads (two (2) off Langhorne-Newtown Road (S.R. 0413) and two (2) off Fulling Mill Road). In addition, the Applicant is proposing an access road to the Summit Trace Subdivision.

The parcel is split-zoned with 131.267 acres within the RA-2– Residence Agricultural District and 30.513 acres located within the RA-3 Residence Agricultural District. The RA-3 District is the western portion of the site located adjacent Langhorne-Newtown Road. The balance of site is located in the RA-2 district. ZO §500-502.A and ZO §500-602.A allow for single-family detached dwellings as a permitted use in the respective zoning districts. The RA-2 District allows a single-family detached dwelling on a minimum lot size of 30,000 square feet with a maximum density of 1.2 du/ac. The RA-3 District allows a single-family detached dwelling on a minimum lot size of 22,500 square feet with a maximum density of 1.4 du/ac. Both zoning districts require a minimum front yard of 50 feet, minimum lot width of 125 feet, and a maximum impervious surface ratio of 30 percent.

Stormwater management facilities (including seven (7) infiltration basins, one (1) detention basin, swales, inlets and storm pipe) are also proposed. The Applicant has indicated that the basins will be privately owned and maintained by the Homeowners Association (HOA). The proposed internal road right-of-way will be offered for dedication to the Township as well as the areas between the existing right-of-way and ultimate right-of-way on Tollgate and Fulling Mill Roads.

The major revisions include a reduction of 2 building lots, removal of the proposed improvements on Tollgate Road that are located in a floodplain area, requesting waivers for not providing the Tollgate Road improvements in the floodplain area, filing a variance application to allow the construction of the Tollgate Road improvements in the floodplain, and added more information regarding the connection of Road "A" to Summit Trace Road.

The plans have been reviewed for compliance with the Township of Middletown Zoning Ordinance No. 91-16, the Township of Middletown Subdivision and Land Development Ordinance No. 85-23, and the Neshaminy Creek Watershed Stormwater Management Ordinance No. 2011-03.

WAIVERS REQUESTED:

1. **SALDO §440-410.B(1)** classifies Tollgate Road as a primary street and the minimum required cartway width for primary streets is 36 feet wide. **The Applicant is requesting a partial waiver from this section of the Ordinance from the requirement from completing road widening at the portion of Tollgate Road that is located in the floodplain.**

TSE does not recommend approval of the waiver requested for §440-410.B(1) and the plans shall be revised to show these improvements and the associated design as provided in previous plan submissions. In addition, a variance will be required to construct a wider cartway through the section of Tollgate Road that is located in the calculated floodplain. The Township Solicitor shall determine if a variance for floodplain disturbance shall be obtained first before the Board of Supervisors make a decision to approve or deny the preliminary plan.

2. **SALDO §440-509.A** states sidewalks shall be constructed on both sides of all proposed or existing streets within the subdivision or land development, unless in the opinion of the Board of Supervisor, with the advice of the Planning Commission, they are unnecessary for public safety and convenience. If the Board of Supervisors deems it to be in the public interest to waive the requirement for sidewalks, the developer shall contribute a sum comparable to the cost if the sidewalks had been installed. **The Applicant is requesting a partial waiver from this section of the Ordinance from the requirement from completing sidewalks at the portion of Tollgate Road that contains the floodplain.**

TSE does not recommend approval of the waiver requested for §440-509.A since not providing a continuous section of sidewalks will cause an unsafe condition whereby pedestrians would be forced to walk on the shoulder of Tollgate Road where sidewalks are not proposed due to the required floodplain disturbance. The plans shall be revised to show these improvements and associated design as provided in previous plan submissions. Again, the Township Solicitor shall determine if a variance for floodplain disturbance shall be obtained first before the Board of Supervisors make a decision to approve or deny the preliminary plan.

ZONING ORDINANCE (ZO) REVIEW:

The majority of the site is located in the Residence Agricultural Zoning District RA-2, which has frontage on Tollgate and Fulling Mill Roads, with the remainder of the site being located in the Residence Agricultural Zoning District RA-3 having access to Langhorne-Newtown Road (S.R. 0413).

Both of the Residence Agricultural Zoning Districts, RA-2 & RA-3 allow for single-family dwellings as a principal use and both districts have virtually identical dimensional requirements, the difference being that the RA-2 district has a larger lot area requirement, which provides for a somewhat decreased density.

The area and dimensional requirements for the two (2) existing zoning districts are as follows:

Requirement	RA-2 (Sect. 503)	RA-3 (Sect. 603)
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Minimum lot area	30,000 sf	22,500 sf
Minimum lot width	125 ft	125 ft
Maximum density	1.2 DU/acre	1.4 DU/acre
Maximum building coverage	15%	15%
Maximum building height	35 ft	35 ft
Minimum front yard	50 ft	50 ft
Minimum side yard	15 ft; 40 ft agg.	15 ft; 40 ft agg.
Minimum rear yard	50 ft	50 ft
Minimum impervious surface ratio	30 %	30%
Minimum building envelope	6,000 sf	5,000 sf
Open Space	Not Required by Z.O.	Not Required by Z.O.

1. **ZO §500-2601.A** requires areas identified as within the floodplain of the one-hundred-year recurrence interval flood shall not be altered, regraded, filled or built upon except in conformance with §500-2603, Floodplain regulations, of this chapter. The proposed limit of disturbance for the Tollgate Road improvements, sidewalks and the installation of endwall ES-7 is partially located within the floodplain. In addition, the Natural Resource Protection charts on sheets 12-14 indicate that no disturbance of the floodplain is proposed. A **variance** will be required.

The Applicant has revised the plans to remove all roadway improvements from the floodplain along Tollgate Road and requested a waiver from the SALDO sections requiring road widening and sidewalks along frontage streets; therefore, no disturbance of the floodplain is currently proposed. The Applicant has also filed a Zoning Heard Board application to request a variance from the floodplain disturbance prohibition in order to allow the Applicant to provide road widening and install sidewalk along the entire Tollgate Road frontage. TSE recommends that the Applicant revise the plans to show these improvements as provided in previous plan submissions and the requested variance sections shall be included on the record plan.

2. **ZO §500-2604.E** states that each developer shall provide a plan or other material as required to establish the method by which open space shall be perpetuated, maintained and administered, in accordance with the requirements of SALDO §440-423. The plan and other materials shall be construed as a contract between the landowner(s) and the municipality and shall be noted on all deeds. ***Applicant has indicated that HOA documents will be prepared prior to plan recordation to comply the requirements of §500-2604.E***
3. **ZO §500-2604.A** states that open space shall not include land occupied by roads or road rights-of-way. The Summit Trace townhouse development was approved in year 1977 with 10 (ten) open space lots (shown on the record plan as Lots A thru J). The Applicant is placing a road/road right-of-way within an already established open space lot (known as open space Lot B). This would require a variance on the Summit Trace development property. The owners within the Summit Trace Development may have to be party to the variance application. We will leave this matter for the lawyers to discuss.
4. **ZO §500-2604.G** states owner impervious surfaces within open space shall be accountable as part of the total impervious surface ratio for the development. Since additional impervious surface is being proposed in the Summit Trace development, the Applicant shall provide an

impervious surface breakdown for the Summit Trace development to determine if it is the development meets the impervious surface ratio.

5. **ZO §500-1203.D and F** states that a minimum 30-foot setback is required between the building and a streetline. We note that lots 93 through 97 of the Summit Trace Development have a 30-foot setback line that follows the right-of-way of Summit Trace Road. Since a portion of the Summit Trace Road right-of-way is changing with the connection of Road “A” within the Summit Trace development, the 30-foot setback would change (resulting in a more restrictive building envelope) on lots 94 through 97. At this point in time, we do not know if there is a setback violation caused by the relocation of the right-of-way within the Summit Trace development. The applicant shall confirm this.

There is another question that arises from modifying the right-of-ways within the Summit Trace development. As mentioned above, the Applicant is affecting the setbacks of lots 94 through 97 that are owned by someone other than the Applicant. We believe that the owners of these lots would have to agree to this change because it affects their properties (making the building envelope more restrictive). Also, the existing open space is changing within the Summit Trace development. We believe that approval is needed from all the property owners to change the already created open space. The Township Solicitor shall confirm this position.

FLOODPLAIN MANAGEMENT (Chapter 254):

6. The FIRM map shows that a portion of the site is within Zone A, which is defined in Section 402.C as an area which no base flood elevations have been provided. For these areas, elevation and floodway information from other federal, state or other acceptable sources shall be used when available. The Applicant’s Engineer has provided a Hydrology & Hydraulic Engineering Report for the floodplain. This report will need to be updated to reflect the proposed conditions and the associated peak flow rates. In the Applicant’s consultant response letter, it is stated that the Applicant will be filing a zoning variance application to allow floodplain disturbance to construct the improvements shown on the previous plan (curb, sidewalk, cartway widening, storm sewer, etc.).
7. **§254-503.A.1** states within any Identified Floodplain Area the use of fill shall be prohibited. If a variance is obtained it must be per the Engineer’s approval and is in accordance with the criteria in Article VIII, then the provisions listed in this section shall apply. The Applicant is proposing perimeter road improvements and the installation of endwall ES-7 within the delineated floodplain on Tollgate Road, therefore, a variance will be required for disturbance within the floodplain.

The Applicant has revised the plans to remove all roadway improvements from the floodplain along Tollgate Road and requested a waivers from the SALDO sections requiring road widening and sidewalks along frontage streets; therefore, no disturbance of the floodplain is currently proposed. Again, TSE does not recommend granting the waivers at this time.

The Applicant has also filed a Zoning Heard Board application to request a variance from the floodplain disturbance prohibition in order to allow the Applicant to provide road widening and install sidewalk along the entire Tollgate Road frontage. TSE recommends that the plans be revised to show these improvements and the associated design as

provided in previous plan and that the waiver requests be denied. Before anymore revision are made to Tollgate Road, the Applicant shall wait and see if the variances are granted by the Middletown Township Zoning Hearing Board (ZHB). If the required variances are granted by the ZHB, the plans shall be revised to include all the improvements that were in the previous plan set. If the variances are not granted, additional discussions will need to take place.

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE (SALDO):

8. **SALDO §440-301.I** requires all subdivisions and land developments be required to submit and receive approval for Act 537 Sewage Facility Planning from PADEP. This project is located in the Bucks County Water & Sewer Authority (BCWSA) service area. Plans shall be submitted to BCWSA for review and approval. The Approval of the appropriate sewage-facility-permitting agency (PADEP) must be received by the Township prior to preliminary approval. ***The Applicant has indicated that they are in the process of obtaining planning module approval and will be provided to the Township with the final plan application.***
9. **SALDO §440-303.D.3.j** requires plans and profiles of all proposed stormwater management facilities. We have the following comments:

The following storm sewer pipe runs have hydraulic grade lines that exceed rim elevations in the Bogia Engineering, Inc. PennDOT Stormwater Management Report with Township Road Supplement:

- | | |
|-------------------|------------------|
| a. MH3 – ES | f. TG3 – TG3.1 |
| b. Corner – ES | g. TG2 – TG3 |
| c. TG4.1 – ES4 | h. TG4 – TG4.1 |
| d. TG3A.1 – TG4.1 | i. TG3A – TG3A.1 |
| e. TG3.1 – TG3A.1 | |

The following storm sewer pipe runs have discrepancies between the storm sewer report and the storm sewer profiles/plan in the Bogia Engineering Highway Occupancy Permit plan set and Tollgate and Fulling Mill Road Improvement plan set:

- | | |
|--|--|
| a. EW713-INL714: Pipe Length & Slope | e. FM6-FM5: Length & Slope |
| b. MH548-INL541: Rim elevation | f. Corner-ES: Rim elevation |
| c. DHMH-OS: Information for 'OS' not provided on profile – Cannot confirm report | g. ST3C-ST3: Length & Slope |
| d. MH3-ES: Rim elevation | h. EX8a: No profile has been provided |
| | i. TG3-TG3.1: Invert elevation & slope |

As invert elevations and pipe lengths are modified, pipe slopes shall be confirmed and revised as needed.

Miscellaneous Bogia Engineering Inc. plan sets storm sewer comments:

- a. The information provided for pipe run 'DHMH – OS' on the ST-3B TO EX. INLET profile does not match the information for the same pipe run shown on the ST-4 EX. INLET TO DHMH profile. In addition, no information for 'OS' has been provided on either profile. The values in the report cannot be confirmed until these discrepancies have been corrected.
 - b. There is a pipe run provided in the storm sewer tabulation for EX8a. BEI has stated that EX8a is to be replaced by proposed FM8A; however, there is already a pipe run provided in the storm sewer tabulation for FM8A – FM8. Therefore, the pipe run for EX8a shall be removed from the tabulation as it pertains to the existing system.
 - c. No profile has been provided for pipe run and it is unclear where this connection is located. Clarification is required.
 - d. The BEI plan set shows lots 119-123 accessing Fulling Mill Road. The G&A plan set has revised these lots to be 117-121. The BEI plans shall be revised to correct this discrepancy.
10. **SALDO §440-407.A.(1)** requires that no subdivision or land development plan be approved unless there has been a plan approved by the Bucks County Conservation District for Erosion and Sedimentation control. ***Applicant has indicated that they will comply with this requirement prior to plan recordation.***
11. **SALDO §440-409.J** requires a PennDOT Highway Occupancy Permit (HOP) any time the Applicant encroaches into the legal right-of-way. The Applicant will be required to obtain Highway Occupancy Permits for the proposed connection of Roads 'A', 'T', 'G', and 'H', utility connections and all frontage improvements along Langhorne-Newtown Road (S.R. 0413) and a portion of Fulling Mill Road (SR 2033). ***The Applicant indicates that HOP applications have been made to PennDOT for new road connections to PennDOT right-of-way and utility providers will handle the utility permits at the time of connection.***
12. **SALDO §440-418** –The location of such street and traffic control signage is shown on the plans. Signage shall be shown where the internal roads intersect the perimeter roads.

The BEI Highway Occupancy Permit Plans do not provide the signs surrounding the Road 'A' and Newtown-Langhorne Road intersection on the 'Pavement Marking and Signage Plan' (sheet 11 of 73). In addition, an 'All traffic must turn right' sign is shown on the G&A plan set at the stop sign for Road 'T', which has not been provided on sheet 10 of 73 of the BEI Highway Occupancy Permit plans. Also, the 'Lane Use Control (Three Lanes) Sign' shown on the BEI Highway Occupancy Permit Plans between Road 'A' and Road 'T' does not correspond to the signs provided in this location on the G&A subdivision plan. The plan sets shall be revised to correspond with each other and all signs shall be provided on the BEI Highway Occupancy Permit Plan set.

13. **SALDO §440-419.F, G, & H** requires handicap ramps at corners and crossing points where pedestrian traffic is anticipated. Accessible routes and handicap ramps shall be designed to meet current ADA standards. ***The Applicant has provided handicap ramps; however, the grading design of the ramps have not been provided. The Applicant has indicated that ADA ramp grading at intersections will be provided at final plan submission.***

14. **SALDO §440-423.C.(4)** states that stormwater detention or retention basins shall not be included in areas designated for open space. The Applicant has revised the plans to provide 'Other Open Space Areas,' which are Open Space area above the Recreational Area/Open Space requirement. All basins are located within Other Open Space Areas and will be owned and maintained by the HOA. ***The Applicant has indicated that HOA documents shall be prepared prior to plan recordation covering the above requirements.***
15. **SALDO §440-428** requires that a traffic impact fee for all new developments/subdivisions within each of the transportation service areas. The Township's Traffic Engineer will determine the service area in which this project is located in and the amount of the traffic impact fee.
16. **SALDO §440-506** requires that street signs, bearing the names of the intersecting streets, shall be erected at every street intersection. The Applicant shall provide a list of street names to the Township during final plan approval. ***The Applicant has indicated that they will comply with this requirement prior to Final Plan approval.***
17. **SALDO §440-507** requires the developer to install streetlights and the underground conduit that is acceptable to the Township. The Applicant has proposed Street lighting within the internal streets. The proposed fixture has a LED bulb, fixture mounted on a 12' high fiberglass pole. The Applicant shall discuss the possibility of tying the proposed lighting fixtures into the Townships network. The lighting plan shall be reviewed by the Township's Streetlight Engineer.
18. **SALDO §440-508** requires monuments to be placed at each change in direction of boundary, to be placed in each street intersection and one on one side of each street at angle points at the beginning and end of curves. Utility easements shall be monumented at the beginning and at their end; areas to be conveyed for public use shall be fully monumented at their external boundaries; and areas for open space shall be fully monumented it each change in direction of boundary.

All open space shall be fully monumented. Also, monumentation shall be shown at all grade breaks and beginning and ends of curves on the realigned right-of-way in the Summit Trace development. Please note that the sidewalks along Road "A" are located partially in the lots having frontage on Road "A" as opposed to being located in the right-of-way. The proposed sidewalk in the location where it transitions from the Stone Farm project into the Summit Trace Development is located in the Open Space "B". This sidewalk shall either be relocated within the right-of-way or an easement will be required.

19. **SALDO §440-512** requires the developer to construct water mains and water services to each lot within a subdivision or land development. ***The Township Fire Marshal shall review the plans to determine the appropriate firefighting pressure and flows exists as well as maneuverability of the emergency equipment and vehicles. Plans shall be submitted to Newtown Artesian (NAWC) for review and approval. Approval by the NAWC shall be forwarded to the Township when received.***
20. **SALDO §440-510.A** states curbs shall be constructed on both sides of all proposed or existing streets within the subdivision or land development, unless in the opinion of the Board of Supervisor, with the advice of the Township Engineer, they are unnecessary. The plans do not show curbing on the portion of Tollgate Road that is located in the floodplain. The Applicant had requested partial waivers for road widening and sidewalks in the first section of this letter. Again, we will not recommend granting a partial waiver for curbing just as we indicated for the sidewalk

and road widening. The applicant shall wait and see if the Middletown Zoning Hearing Board grants a variance for floodplain disturbance. If a variance is granted then there is no need to request the waivers. The curbing shall be shown on the plans as it was shown on the previous plan submissions.

21. **SALDO §440-514** requires the developer to construct sanitary sewers and make adequate sanitary sewer service available to each lot within the subdivision and land development. ***The Applicant is in the process of obtaining planning module approval. In addition, plans shall be submitted to the BCWSA for review and approval. Approval by the BCWSA shall be forwarded to the Township when received.***

STORMWATER MANAGEMENT ORDINANCE COMMENTS:

The Applicant is proposing a net increase of 37.27± ac. of impervious surface area and 135.62 acres of earth disturbance. The site is located within the Neshaminy Creek Watershed – Stormwater Management Districts ‘A’ and ‘B’.

Note: This project assumes the Maximum Allowable Impervious surface area for all lots (30% of the Lot Area).

22. **SWMO §431-403.A** requires proof of application or documentation of all applicable permit(s) or approvals be part of the plan. The following permits shall be obtained:
- a. NPDES permit for stormwater discharges from construction activities;
 - b. Bucks County Conservation District Erosion & Sedimentation Control Plan;
 - c. PA DEP General Permit #4 for all applicable stormwater outfalls

The Applicant’s Engineer has indicated that the above referenced items will be obtained and forwarded to the Township upon receipt.

23. **SWMO §431-704.A** states that the owner shall sign an Operation and Maintenance (O&M) Agreement with municipality covering all stormwater facilities and BMP’s that are to be privately owned. This agreement must be executed by the owner and the Township and recorded at the Bucks County Courthouse. The O&M agreement must be in a form acceptable to the Township Solicitor (refer to Appendix A of the SWMO for a sample O&M Agreement). Also, SWMO §431-702.A requires both the O&M agreement and the plan to be recorded at the office of the Recorder of Deeds for Bucks County.

The Applicant’s Engineer has indicated that an O&M Agreement will be executed by the Owner and Township at the appropriate time.

GENERAL STORMWATER MANAGEMENT COMMENTS:

24. The note that outlet pipe from Stormwater Basin 7 is proposed to connect to an existing inlet located within the PennDOT right-of-way near the intersection of Langhorne-Newtown Road (S.R. 0413) and Summit Trace Drive. Calculations shall be provided to certify that this inlet and downstream piping system (through the George School campus) has the capacity to

accommodate the proposed flow. In addition, a PennDOT HOP (utility) would be required for this connection.

The Applicant's Engineer has provided calculations, which show a reduction in flow and volume to the existing inlet and downstream piping in the post-developed condition. As part of the PennDOT Permit review, PennDOT will ensure that additional stormwater runoff does not enter the PennDOT right-of-way. Further, the Applicant's Engineer has acknowledged that a PennDOT utility HOP will be secured for the connection to this existing inlet. The Applicant has indicated that approval from PennDOT will be provided once received.

25. Soil infiltration testing will be required once the infiltration basins are excavated to the design depth. Soils in the areas where infiltration is proposed shall not be compacted. If the infiltration testing results (during construction) fall below the infiltration rate used for design, the design engineer will need to amend the soils to assure the infiltration returns as designed or modify the design with the approval from the Township Engineer.
26. The Curve Number worksheet for Post-Development POI #3 Bypass 3 shows 0 square feet of impervious surface area on page 395 of the post-construction stormwater management report. Based on the post-development drainage area plan, it appears there is impervious surfaces located within this drainage area (i.e. sidewalks, roadway entrance, etc.); therefore, the CN values shall be confirmed.

WATER SYSTEM REVIEW COMMENTS:

27. All materials and means of construction (including pipe pressure class, valve manufacturer and type, etc.) must be reviewed and approved by the water supplier, Newtown Artesian Water Company (NAWC). **The Applicant has stated that Approval from Newtown Artesian Water Company will be provided upon receipt.**
28. The type (manufacturer, model number, nozzles sizes and threads), number and locations of fire hydrants must be reviewed and approved by the Middletown Township Fire Marshall.
29. A pressure test must be conducted and hydraulic calculations performed to determine if there is sufficient water pressure to serve the development with the proposed water system design. **The Applicant has indicated that a pressure test will be performed prior to final plan approval.**
30. Dead-end watermains shall be avoided. Applicant shall discuss this issue with the water authority. **The Applicant has stated that Approval from Newtown Artesian Water Company will be provided upon receipt.**

SEWER SYSTEM REVIEW COMMENTS:

31. The sewer provider, Bucks County Water & Sewer Authority (BCWSA), shall review and approve the sewer system design.
32. A Sewage Facilities Planning Module Mailer shall be sent to the Pennsylvania Department of Environmental Protection (PADEP) and a Sewage Facilities Planning Module, if required by PADEP, shall be obtained. The Applicant is in the process of obtaining planning module approval.

33. Connections to the sewer system cannot be made until capacities and connections have been allocated by the proper authorities (PADEP, BCWSA and Philadelphia Water Department).

MISCELLANEOUS COMMENTS:

34. The project engineers shall correct illegible/overlapping text on all sheets in their respective plan sets.
35. Road 'H' intersects Fulling Mill Road in front of an existing house. The Applicant shall clarify how headlights will be controlled or stopped from shining into the house. The Project Engineers response is that the Developer proposes to provide a vegetative buffer along the right-of-way line to buffer the headlights from shining into the referenced property. The Landscape plan does not show any vegetative buffers in the area.

The Applicant has stated that evergreen trees are being proposed within the township right-of-way across from Road 'H' to block headlights from exiting vehicles. The Applicant shall obtain written permission from the homeowner of this property for the proposed trees in front of the property. Also, the Applicant's design engineer shall confirm that the clear sight distances for this property will not be blocked by the proposed trees.

The Applicant's design engineer has stated in their response letter dated May 7, 2019 that the applicant has attempted on multiple occasions to obtain the written permission from the property owners; however, permission has not been obtained.

36. Road names shall be assigned to the proposed internal roads prior to recording.
37. A detailed review of the lot grading was not performed at this time.
38. There are two locations of the proposed walking path where the grades are steep. The Project engineer shall verify that this meets ADA requirements and that no flat landing is required to break up the slopes. **The Applicant has stated that ADA design will be provided prior to final plan approval.**
39. The Applicant shall indicate if this development will be serviced by natural gas. **The Applicant's design engineer has stated that this shall be determined prior to final plan approval.**
40. Intersection grading details shall be provided for all intersections. These details shall indicate areas of gutter flow, top and bottom of curb elevations, and HC ramp spot elevations. **The Applicant has indicated these details shall be provided prior to final plan approval.**
41. The Applicant, Metropolitan Development Group, plans on constructing 121 homes in four phases. The Construction sequence provided on sheet 41 shall include/address the phasing of the development.

Will the roads and utilities that are shown in Phase IV be constructed in Phase III? Also, the proposed watermain is connecting to the existing main at Ellis Road which would mean the proposed watermain would need to be installed in Road H (portion is shown in phase IV) to get to the Lot which will be built in Phase III. A discussion shall take place regarding the details of

phasing with regard to roads and utilities. **The Applicant has indicated that prior to final plan approval, the phasing will be coordinated between the applicant and township engineer.**

42. Please note that, due to the volume of comments generated by this Preliminary Plan review, additional comments may be forthcoming when the additional information is provided.

43. The following record plan discrepancies shall be revised on the record plan:

- a. On Sheets 3 and 5 of 105, the block that includes Lots 73 to 86, the outbound geometry for the block does not close by 0.76'. This needs to be addressed so that we can check the geometry for all the interior lots. There also does not show or address the acquisition of land to extend Road "A" to the Summit Trace road tie-in, and whether a new lot or boundary line would be created to address that situation, as the road would go through a portion of Open Space Area "B" in Summit Trace, as well as possibly altering the property lines for privately owned lots by approved subdivision Plan Book 366, Page 87 on the Northerly side of Summit Trace Road. The ownership of the land swap is not shown on the plan. There are also missing interior distances for the land swap in Open Space A, as well as in the buffer zone along the lines to the east and south. The main outbound text is also overwritten from the right-of-way of Road A going northwest. Additionally, the geometry for the subdivision does not agree with the Summit Trace filed map geometry as their plan shows.
- b. On Sheet 10 of 105, the new road alignment for Road "G" between lots 116 and 117, does not match the subdivision on the approved, but not recorded, "Minor Subdivision Plan (Overall) Stone Farm By-Right Plan", by Gilmore and Associates, Inc., dated March 5, 2018, last revised April 25, 2018. A portion of the Right of Way for Road "G" exists in Lot 1 of the minor subdivision and the other portion of the Right of Way for Road "G" exists in Lot 2 of the minor subdivision. We realize that the road is meant to align with Ellis Road across the street from Road "G", so then the minor subdivision should be amended to match what is being shown on these plans.
- c. On Sheets 24 and 25 of 105, the grading and drainage extends offsite into property not currently owned or acquired by easements by the developer as addressed in comment "a". The Applicant has indicated that temporary construction easements will be utilized; however, these have not been shown or labeled on the plans. This discrepancy shall be corrected.
- d. On Sheets 41 and 42 of 105, the limit of disturbance, grading and drainage extends offsite into property not currently owned or acquired by easements by the developer as addressed in comment "a". The Applicant has indicated that temporary construction easements will be utilized; however, these have not been shown or labeled on the plans. This discrepancy shall be corrected.
- e. On Sheets 64 and 65 of 105, the waterline extends offsite into property not currently owned or acquired by easements by the developer as addressed in

comment “a”. The Applicant has indicated that temporary construction easements will be utilized; however, these have not been shown or labeled on the plans. This discrepancy shall be corrected.

44. The BEI Highway Occupancy Permit Plans and Tollgate and Fulling Mill Road Improvement Plans shall be revised to include the following information:
 - a. Contour labels shall be provided for all proposed contours. There are many proposed contours that do not contain labels along Newtown-Langhorne Road on the HOP plan set.
 - b. The lots that directly access Fulling Mill Road are labeled as lots 117-121 on the G&A Land Development plan set and labeled as lots 119-123 on the BEI Highway Occupancy Permit Plans and Tollgate and Fulling Mill Road Improvement Plans. This discrepancy shall be corrected.
 - c. The proposed grading provided within the right-of-way and adjacent areas of Newtown-Langhorne Road and Tollgate Road does not match the grading that is provided in the Gilmore and Associates land development plan set.
45. The applicant will be required to obtain general permits for the additional stormwater discharge points on Tollgate Road. **The Applicant has indicated that general permits for stormwater discharge will be obtained as necessary and forwarded to the Township upon receipt.**
46. The proposed crosswalk on Tollgate Road at the park entrance drive, shown on sheet 7 of 105, ends prematurely and terminates prior to the decal lane/shoulder. In addition, the detectable warning surface appears to be located within the decal lane/shoulder. The plan shall be revised to extend the crosswalk to the edge of Road.
47. The extension of proposed Road “A” into the Summit Trace development shall contain the appropriate with right-of-way based on the classification of road. TPD shall review the number of trips generated on proposed Road “A” to determine the proper road classification and associated right-of-way and cartway width. The Applicant is proposing a 32-foot wide cartway and a 50-foot wide right-of-way for this section of roadway. We note that providing the 32-foot wide right-of-way causes the location of the sidewalk to be outside of the right-of-way. The proposed sidewalks are located outside the right way for the entire length of proposed Road “A”. **The Applicant’s response letter states that an access easement is being provided for the sidewalks. The access easement for the sidewalks shall be shown and labeled on the record plans.**
48. The portion of the proposed right-of-way for Road “A”, from the common property line between the Stone Farm development and the Summit Trace development to where Road “A” intersects Summit Trace Drive, shall be shown on the plans and labeled with metes and bounds. The record plan, grading plan, and plan and profile shall show the right-of-way. If grading is to occur outside the right-of-way, temporary construction easements will be required.

The Applicant’s response letter (response to comment 51) states that a temporary construction easement will be provided for grading occurring outside the right-of-way. The plans shall be revised to show and label the proposed temporary construction easement location.

49. The Summit Trace development was approved and recorded on December 8, 1977. The multi-residential development was approved with an open space requirement of 35%. Since the Applicant is extending proposed Road “A” into the area known as Open Space B, the open space for the Summit Trace Development will be reduced. The Applicant shall provide evidence that the Summit Trace development has a minimum 35% open space after the area of the proposed Road “A” right-of-way is subtracted. The Development has ten (10) open space areas (namely open space “a” thru open space “j”).

The Applicant’s response letter states that the proposed road connection to Summit Trace results in the disturbance of an additional 9,154 square feet of Open Space ‘B’ within the Summit Trace community. The Applicant and the owner of Summit Trace Open Space ‘B’ have entered into a Land Swap Agreement, whereby the owner of Summit Trace Open Space ‘B’ has agreed to convey the 9,154 square feet of land required to accomplish the Summit Trace road connection to the Applicant, and the Applicant has agreed to convey a land area of 9,154 square feet on the Stone Farm property, located adjacent to an area of existing Summit Trace Open Space, to the owner of Open Space ‘B’, to become part of and be included within, Open Space B in the Summit Trace community. Therefore, the area of Open Space ‘B’ will remain unchanged as a result of the road connection. As the residents of the Summit Trace development bought land within the development with a specific allocation of open space, we question whether or not the residents of Summit Trace must approve the reallocation of the provided open space.

In addition, the area provided on Summit Trace Road labeled as ‘Northern Summit Trace R-O-W area returned A=3,407 SF (0.08 ac)’ does not indicate who the area is to be returned to and this shall be clarified. Geometry shall be included for all areas of open space to be land swap in order to confirm the areas. Lastly, the hatching used for the open space to be conveyed to Summit Trace appears to correspond to the clear sight triangle in the legend on sheet 4 of 105. This discrepancy shall be corrected to avoid confusion.

50. A note (note 39) has been added to the record plan, on sheet 3 of 105, that states “the trail located along the northern edge of Tollgate Road right-of-way will not be required should the county path along the southern edge of tollgate Road right-of-way be installed by year 2020”. The Township’s Planning Commission and Board of Supervisors shall discuss this issue in further detail. We were told by Gilmore and Associates, Inc. that Bucks County has a project that will install a trail on the south side of Tollgate Road. To date, we do not know the location of the proposed trail on Tollgate Road or the starting point and ending point. The Township’s Planning Commission and the Board of Supervisors shall determine if it is desired to construct the 6-foot wide sidewalk on the north side of Tollgate Road (as shown on the plans) or wait for the County Trail to be constructed on the south side. It is our recommendation that the Township obtain more specifics regarding the trail and find out when this trail will be built by the County and the exact location of the trail. If it is decided not to have the Applicant construct the 6’ wide sidewalk on the North side of Tollgate Road, then additional crosswalks may be required at the corner of Fulling Mill Road and Tollgate Road to connect the Stone Farm development sidewalks to the County Trail. Please keep in mind that whether the trail/sidewalk is on the north side (by Applicant) or south side (by County) of Tollgate Road, variances for floodplain disturbance will be required to cross the stream/tributary and possibly PADEP general permits.

51. The requested variances and waivers shall be listed on the record plans.

52. There is a streetlight proposed overtop of a storm sewer line (see sheet 28, at lot line between lot 48 and lot 49).
53. Contour labels shall be provided for all proposed contours (see sheet 24).
54. The Township planning commission may want to suggest extending the proposed sidewalk along the south side of Summit trace Road to a point where it connects with the eight-foot concrete path along Langhorne-Newtown Road.
55. Open space “B” within the Summit Trace development was originally one lot. Now, with the extension of Road “A” through open space “B”, the right-of-way bisects open space “B” and creates two separate areas or lots. Will the Summit Trace record plan need to be amended?
56. The open space “A” shall be relocated to the south side of the 5956 ft.² area to be conveyed to Summit Trace development.
57. Sheet 3 and 4 of 105 contain a reference that 5956 ft.² of the Stone Farm open space “A” is being conveyed to the Summit Trace Development. There was past correspondence that indicated that the original developer of the Summit Trace development owns the current open space. We question whether the Summit Trace development shall receive the additional open space when they don’t own any of the other open space. The Applicant will need to confirm if a Homeowners Association exists before conveying the land to the Summit Trace Development.

Also there is a notation on the plan that states “Northern Summit trace R – O – W area returned, Area = 3,407 sf”. Who is receiving this land, Summit Trace development or the single family property owner to the north of this land?

PERMITS & APPROVALS:

58. Copies of all Approval/Permits from agencies having jurisdiction on any aspect of the project must be submitted to the Township including, but not limited to, the following:
 - a. Pennsylvania Department of Transportation (PennDOT) – Highway Occupancy Permit (HOP) for the proposed street entrance, utility connections and all frontage improvements;
 - b. Bucks County Conservation District – Erosion & Sedimentation (E&S) Control Plan Approval;
 - c. Pennsylvania Department of Environmental Protection – Nonpoint Discharge Elimination System (NPDES) Permit;
 - d. Pennsylvania Department of Environmental Protection – Act 537 Sanitary Sewer Planning Modules;
 - e. Pennsylvania Department of Environmental Protection – General Permits for Utility Stream Crossing and Stormwater Outfalls;
 - f. Army Corp. of Engineers Jurisdictional Determination Letter dated March 27, 2018

The Applicant has indicated that the Township will be provided copies of all outside agency permits and approvals upon receipt.

RECOMMENDATION:

Tri-State Engineers recommends that the Applicant address the above listed comments to the satisfaction of the Township.

In order to facilitate an efficient review of the revised plan submission, the Design Engineer should provide a letter, addressing item by item, their action in response to each of our comments.

If you have any questions or require additional information, please do not hesitate to contact me at 215-357-5950.

Sincerely,



Larry P. Young, P.E.
President
Tri-State Engineers &
Land Surveyors, Inc.
lyoung@tse-ls.com

cc: Middletown Township Planning Commission
Middletown Township Board of Supervisors
James J. Esposito, Esq. – Township Solicitor
Stephanie Teoli-Kuhls – Township Manager
Isaac Kessler, P.E. – Township Engineer
Michael Tulio, Applicant – Metropolitan Development Group
Robert Gundlach Jr., Esq. – Applicant’s Attorney – Fox Rothchild, LLP
Eric Clase, P.E., Applicant’s Engineer – Gilmore & Associates, Inc.
Gregg A. Bogia, Applicant’s Traffic Engineer – Bogia Engineering, Inc.