



*Excellence Delivered **As Promised***

Date: December 28, 2020

To: Steve Norcini, PE Township Engineer

From: Roger Phillips, PE

cc: Kevin W. Kochanski, RLA, CZO – Director of Community Development
Mary Eberle, Esq. – Grim, Biehn, and Thatcher
Damon Drummond, PE – Gilmore & Associates, Inc.
Patricia Sherwin – Radnor Township Engineering Department

RE: Eagle and Radnor Roads

Date Accepted: 10/06/2020
90 Day Review: 01/04/2021 extended to 01/31/2021

Gannett Fleming, Inc. has completed a review of the Preliminary Land Development Plans for the above referenced project for compliance with the Radnor Township Code. We have reviewed the plans based on a proposed zoning map revision that would convert this Parcel to R-2 from the current zoning designation of PI. The map revision must be approved by the Board of Commissioners prior to this plan moving forward in the approval process. The applicant is proposing to construct 20 single family homes on individual lots. The Plans were reviewed for conformance with Subdivision and Land Development, Zoning and other applicable codes of the Township of Radnor.

The applicant has indicated in a December 11, 2020 letter that the following waiver is being requested:

1. §255-12.A – To permit the land development application to proceed and be reviewed as a single preliminary/final land development plan.
2. §255-21.B(1)(n) – Existing principal buildings (and their respective uses) and driveways on the adjacent peripheral strip. Sewer lines, storm drains, culverts, bridges, utility easements, quarries, railroads and other significant man-made features within 500 feet of and within the site (this includes properties across streets) must be shown on the plans. A partial waiver is being requested to not provide the items which are not visible on aerial imagery (sewer lines, storm drains, easements, etc.)

Eagle and Radnor Roads

Plans Prepared By: Site Engineering Concepts, LLC
Dated: 09/15/2020 and last revised 12/7/2020

Gannett Fleming, Inc.

Sewage Facilities Planning

1. Final plan approval will not be granted until Planning Approval or a Planning Exemption is received from the PA DEP. The applicant has indicated on the plans that the planning modules have been submitted to the authorities for signature and will be forwarded to the PA DEP when completed. To date, the Township has not received a copy for review.

Zoning

1. The proposed zoning table must be revised to show the requirements of the proposed development. Additionally, the zoning table must indicate the appropriate zoning district.
2. The breakdown for how the impervious coverage was calculated for each lot must be provided.
3. There appears to be 2- 20 foot side yards for Lot 14 show on the plan. This must be revised to indicate on of the side yards must be a minimum of 25 feet.
4. Some of the numbers are different in the proposed lot table and the proposed zoning summary table. They must be verified and tables revised to be consistent. For example, on the proposed lot table, the proposed lot area for lot 15 is 21,623 SF, but on the proposed zoning table the proposed lot area for lot 15 is 21,923.
5. There appears to be part of the home lot #1 and the concrete aprons and sidewalk for Lot 1, lot 2, and lot 3 located in the steep slope areas of greater than 20%. The applicant has indicated that these steep slope areas are man-made. Verification of the steep slopes being created by an approved Land Development Plan or Grading Permit must be provided.

Subdivision and Land Development

1. §255-20-B(1)(n) – Existing principal buildings (and their respective uses) and driveways on the adjacent peripheral strip. Sewer lines, storm drains, culverts, bridges, utility easements, quarries, railroads and other significant man-made features within 500 feet of and within the site (this includes properties across streets) must be shown on the plans. The applicant has requested a partial waiver from this requirement.
2. §255.27.C(4) – When a subdivision abuts or contains an existing street of inadequate right-of-way width, the Board of Commissioners may require the reservation or dedication of rights-of-way to conform with the required standards. Radnor Street Road is a Minor Collector. The right-of-way requirement is 60 feet. The applicant has indicated on the

plans that the right-of-way is 33 feet. Walnut Road is a local Road. The right-of-way requirement is 60 feet. The applicant has indicated on the plans that the right-of-way is 50 feet. Eagle Road is a Major Collector. The right-of-way requirement is 80 feet. The applicant has indicated on the plans that the right-of-way is 40 feet.

3. §255.27.H(6) – Minimum curb radii at street intersections shall be 25 feet for local streets; 30 feet for collectors; 35 feet for arterials; and 10 feet for driveways. Radnor Street Road is a minor collector so the curb radii must be 30 feet, not 25 as shown on the plans.
4. §255.37.G – Sidewalks and pedestrian paths shall be laterally pitched at a slope of not less than ¼ inch per foot to provide for adequate surface drainage.
5. §255.38B – Street trees 2 ½ inches dbh at intervals of not more than 30 feet along both sides of new streets and along one or both sides of an existing street within the proposed subdivision or land development must be shown on the plans. The plan indicates that there are 76 street trees provided. The applicant must provide the calculations that breaks down how the number of street trees were calculated.
6. §255-40.C(2) – Access and circulation for fire-fighting and other emergency equipment, moving vans, fuel trucks, garbage collection, deliveries and snow removal shall be planned for efficient operation and convenience. The turning templates provided on sheet 13 are incomplete.
7. §255-43.1.B(1) – For all residential subdivisions or land developments involving a total of four or more lots and/or dwelling units, a minimum of 1,440 square feet or suitable park and recreation land shall be provided per dwelling unit within such subdivision/land development, unless the developer agrees to a fee in lieu of \$3,307 per dwelling unit (existing or proposed).
8. §255-49 – Where appropriate, the developer shall install or cause to be installed, at the developer’s expense, metal or fiberglass pole streetlights serviced by underground conduit in accordance with a plan to be prepared by the developer’s engineer and approved by the Board of Commissioners.
9. §255-54.B – The central water system should be designed with adequate capacity and appropriately spaced fire hydrants for fire-fighting purposes pursuant to the specification of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshall shall be required in order to ensure that adequate fire protection is provided. We note that the applicant is working with the Township Engineer and Township Fire Marshall and will incorporate their input as applicable.

Stormwater

1. Please revise the proposed drainage area map on Sheet 14 of the plan set to clearly indicate the separate drainage areas used in the stormwater calculations (i.e. A1, A2, etc.).
2. Lot #19 Infiltration Bed: Outlet pipe slope is listed as 12.20% on the plans and is listed as 12.50% in the hydrograph report. Please revise this inconsistency.
3. Please revise the endwall at Outfalls A2, A3, and A4 to a level spreader to discharge runoff in a disperse, unconcentrated manner. Please provide a level spreader detail.
4. It appears the infiltration test elevation does not correspond to the bed bottom elevation for Lots #1, #6, and #20. Please revise the bed bottom elevations to incorporate to the appropriate elevation and provide at least two feet above any limiting zone.
5. The proposed bed bottom elevation for Lot #11 has been revised to 360.5, which is only 1.9 feet above limiting zone. Please revise the bed bottom elevation to provide at least two feet above any limiting zone.
6. The Basin Footprints on the Basin Volumes & Dewater Times Per Bed in the stormwater report are inconsistent with the bed footprints found on the plans for Lots #17, #18, & #20. Please revise these inconsistencies.
7. The location of storm pipe PP-11 and Outfall A5 have been relocated to avoid interference with infiltration bed PIB-1 and to provide adequate cover. Please update the Mid-Lot Storm Main Profile on Sheet 9 of the plan set to reflect the updated conditions.
8. The pipe size of PP-R1C on PI-R2 is listed as 15” in the Radnor/Beechtree Storm Main table on Sheet 11 of the plans but is indicated as 8” in the Lot 17 & 18 Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
9. The invert of PO-13 on PI-R3B is listed as “REF!” in the Radnor/Beechtree Storm Main table on Sheet 11 of the plans but is indicated as 384.07 in the Beechtree Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
10. The invert of PO-12 on PI-R4 is listed as “REF!” in the Radnor/Beechtree Storm Main table on Sheet 11 of the plans but is indicated as 382.48 in the Beechtree Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
11. The invert of PP-R4 on PI-R4 is listed as 380.13 in the Radnor/Beechtree Storm Main table on Sheet 11 of the plans and in the Pipe Run Table on Sheet 12 of the plans but is indicated

- as 380.11 in the Beechtree Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
12. The invert of PO-6 on PSTMH-3 is listed as 372.78 in the Mid-Lot Storm Main table on Sheet 11 of the plans but is indicated as 372.63 in the Mid-Lot Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
 13. The invert of PP-11 on Outfall A5 is listed as 360.13 in the Pipe Run Table on Sheet 12 of the plans but is indicated as 360.3 in the Mid-Lot Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
 14. The invert of PO-3 on PI-R6B is listed as 359.30 in the West Walnut Storm Main table on Sheet 11 of the plans but is indicated as 361.68 in the Walnut Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
 15. The slope and length of PP-R6A are listed as 3.1% and 151.00 LF, respectively, in the Pipe Run Table on Sheet 12 of the plans but is indicated as 5.0% and 178 LF, respectively, in the Walnut Storm Main Profile on Sheet 9 of the plans. Please revise these inconsistencies.
 16. The slope, length, and upstream invert of PP-R6B are listed as 2.4%, 131.00 LF, and 359.28, respectively, in the Pipe Run Table on Sheet 12 of the plans but is indicated as 5.5%, 134 LF, and 361.01, respectively, in the Walnut Storm Main Profile on Sheet 9 of the plans. The upstream invert is listed as 359.28 in the West Walnut Storm Main table on Sheet 11 of the plans. Please revise these inconsistencies.
 17. The invert of PO-2 on PI-R7 is listed as 355.20 in the West Walnut Storm Main table on Sheet 11 of the plans but is indicated as 355.56 in the Walnut Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.
 18. The slope, length, and upstream invert of PP-R7 are listed as 3.7%, 157.10 LF, and 355.18, respectively, in the Pipe Run Table on Sheet 12 of the plans but is indicated as 5.5%, 112 LF, and 355.54, respectively, in the Walnut Storm Main Profile on Sheet 9 of the plans. The upstream invert is listed as 355.18 in the West Walnut Storm Main table on Sheet 11 of the plans. Please revise these inconsistencies.
 19. The pipe size of EX A on Outfall A7 is listed as 15" in the West Walnut Storm Main table on Sheet 11 of the plans but is indicated as 8" in the Walnut Storm Main Profile on Sheet 9 of the plans. Please revise this inconsistency.

20. It appears that several utility crossings are missing from the Beechtree Storm Main Profile on Sheet 9 of the plans. The Utility Plan on Sheet 11 appear to show 25 utility crossings but the profile indicates 10. Please revise the profile to include all utility crossings.
21. The Mid-Lot Storm Main Profile on Sheet 9 of the plan set indicates a sanitary lateral that interferes with storm pipe PP-10, but this sanitary lateral does not appear to cross this storm pipe, as seen on Sheet 11. Please clarify or revise the profile to reflect the conditions shown on the plans.
22. Please revise the Radnor Storm Main Profile on Sheet 9 to show the proposed sanitary sewer crossings along storm pipes PP-R1A and PP-R1B.
23. Please revise the Lot 17 & 18 Storm Main Profile on Sheet 9 to show the proposed utility crossings near PI-R2.
24. The Walnut Storm Main Profile on Sheet 9 of the plan set indicates many utility crossings that are inconsistent with the Utility Plan on Sheet 11. Please revise the profile to reflect the conditions shown on the plans.
25. Please revise the Radnor Storm Main Profile and Walnut Storm Main Profile on Sheet 9 of the plan set to display the proposed grade.
26. The Lot 17 & 18 Storm Main Profile on Sheet 9 of the plan set appears to indicate that storm pipe PP-18 does not have adequate cover. Please revise the plans to provide at least one foot of cover.
27. The Mid-Lot Storm Main Profile on Sheet 9 of the plan set appears to indicate that storm pipe PP-P9A does not have adequate cover. Please revise the plans to provide at least one foot of cover.

Sanitary Sewer

1. The profile provided must include the sanitary sewer run PSANH-1 to PSANH-4A.
2. The size of the proposed 8" sanitary sewer must be shown on the profile.
3. Sanitary sewer Laterals for Lot #1 and Lot #2 must be shown on the plans.
4. The lateral for Lot #20 appears to be tying into the existing lateral and directly into the existing sanitary sewer. The condition of the existing lateral must be verified and approved by the Township prior to connection.

5. The lateral for lot #11 does not appear to be tying into the sanitary sewer.
6. Laterals cannot tie directly into manholes. The lateral for Lot #12 is tying into an existing manhole. This must be revised.
7. Sanitary sewer branches must not tie into manholes at acute angles to the flow.
8. A note must be added to the plans stating no planting will be done in the Sanitary Sewer easements.
9. Sheet 3 indicates that the easement between lots 13 and 14 will be a private utility easement. If the sanitary sewers will be dedicated to Radnor Township, this must be revised.
10. Additional information must be provided regarding the decommissioning of the existing sanitary sewer.
11. The invert information must be verified for the sanitary sewer in Walnut Lane.
12. All sanitary sewer lines must be located in the paved area to the maximum extent possible. The proposed sanitary sewer line in Radnor Street Road must be located in the travel lane.

General

1. The applicant has indicated that all retaining walls will be under 4 feet high. Any revisions to the size or locations of the individual structures will be addressed with the grading permits.
2. The applicant must appear before the Shade Tree Commission and gain approval prior to this plan being presented to the Board or Commissioners.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.



Roger A. Phillips, P.E.
Senior Project Manager