



July 13, 2022

Smithfield Township Planning Commission
1155 Red Fox Road
East Stroudsburg, PA 18301

**SUBJECT: SHAWNEE VALLEY PRD STAGE 1B FINAL PLAN
LAND DEVELOPMENT PLAN REVIEW NO. 1
SMITHFIELD TOWNSHIP, MONROE COUNTY, PENNSYLVANIA
PROJECT NO. 2232243R**

Dear Planning Commission Members:

Pursuant to the Township's request, we have completed our first review of the Preliminary Subdivision/Land Development Plan for the above referenced project. The submitted information consists of the following items.

- Cover letter prepared by Shawnee Stage 1; LLC dated April 25, 2022.
- Smithfield Township Application for Review of a Subdivision or Land Development.
- Final Plan/Plot Plan prepared by Urban Research & Development Corporation (37 sheets) dated September 2, 2005, revised December 18, 2009.
- PCSM Plan Set prepared by Urban Research & Development Corporation (14 sheets) dated January 26, 2009, revised October 30, 2009.
- Permit Summary 2022
- Pennsylvania Department of Transportation, Transportation Impact Study (TIS) Determination & Scoping Meeting Application with emailed comments dated December 1, 2021.
- Highway Occupancy Permit Plans prepared by Traffic Planning and Design, Inc., dated February 1, 2008, revised March 24, 2009.
- Compensatory Wetland Mitigation Proposal & Design Plans prepared by Amy Greene Environmental – A Davey Company, dated March 30, 2006, revised March 30, 2021.
- JPA Impact Plan (4 sheets) prepared by Urban Research & Development Corporation (4 sheets) dated May 27, 2021, revised August 9, 2021.
- PRD Stage 1B Engineering Reviews and Approval Conditions.
- December 14, 2005, Board of Supervisors Meeting Minutes.
- Postconstruction Stormwater Management Report, prepared by Irick, Eberhardt & Mientus, Incorporated, dated August 11, 2005, last revised December 18, 2009.

BACKGROUND INFORMATION

The Applicant has submitted a land development plan in support of the Stage 1B Final Plan at the Shawnee Valley Planned Residential Development.

The Shawnee Valley PRD is located along Shawnee Valley Road and points north and extends south to and across Mosiers Knob Road. It is located to the west of the Shawnee Mountain Ski Area and consists of five (5) stages. This submission is for Stage 1B.

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Stage 1B is located on the southern side of Shawnee Valley Road, between Shawnee Valley Road and Hollow Road (S.R. 2023) and proposes a total of 294 residential units; 71 single family lots, 33 single family, common open space lots, and 190 townhouse units. The lots are proposed throughout a network of proposed roads that will have access to both Shawnee Valley Road and Hollow Road (S.R. 2023). At its meeting held on December 14, 2005, the Board of Supervisors approved the Stage 1B Final Plan with the following conditions:

1. That all required permits and approvals be received from outside agencies including the US Army Corps of Engineers, the PA Department of Environmental Protection, the Monroe County Conservation District, and the PA Department of Transportation.
2. That all comments in the Township Engineer's letters (David Horton P.E., Boucher & James, Inc dated December 13, 2005, and John Henning, P.E., Boucher & James dated December 14, 2005) are addressed to the Township's satisfaction.
3. That appropriate improvements security and/or bonds be provided for the project for completion of the work.
4. That the Developer work with the Shawnee Fire Chief and Township Engineer to determine if emergency vehicles can safely negotiate the two curves discussed in John Henning's review letter. If said Fire Chief and Township Engineer determine that they cannot, then the horizontal curve radii of these roads will be increased to the minimum radii necessary to allow emergency vehicles to safely negotiate the curves.
5. That split rail fencing be provided around the detention basins.

We have reviewed the submission against the five (5) conditions listed above and the current Stormwater Management Ordinance.

Based upon our review, we offer the following comments and/or recommendations for your consideration.

CONDITION 1 COMMENTS

That all required permits and approvals be received from outside agencies including the US Army Corps of Engineers, the PA Department of Environmental Protection, the Monroe County Conservation District, and the PA Department of Transportation.

1. The US Army Corps of Engineers (ACOE) Jurisdictional Determination is noted as "Completed, No Refresh Required". ***This shall be addressed and correspondence from the ACOE shall be provided.***
2. The PNDI and approval from the Pennsylvania Fish and Boat Commission have both expired. In addition, it appears the conditions listed in the United States Department of Interior Fish and Wildlife Service letter dated March 16, 2020, have not been addressed. ***A new PNDI Receipt with approvals from the appropriate agencies shall be provided.***
3. The Authorization to Discharge Under the National Pollutant Discharge Elimination System Discharge Requirements for Non-Municipal Sewage Treatment Works, NPDES Permit No. PA-0061786 expired February 15, 2009. ***This shall be addressed, and a current permit shall***

be provided.

4. A Pennsylvania Department of Transportation Scoping Application for the intersection of Hollow Road and Lakeside Drive has been included with this submission. ***The Pennsylvania Department of Highway Occupancy Permit shall be provided upon receipt.***

CONDITION 2 COMMENTS

That all comments in the Township Engineer's letters (David Horton P.E., Boucher & James, Inc dated December 13, 2005, and John Henning, P.E., Boucher & James dated December 14, 2005) are addressed to the Township's satisfaction.

The following comments are related to the Boucher & James, Inc. letter dated December 14, 2005.

1. "There are still a number of horizontal curves on the roads which have radii less than 150 feet. The designer states that radii are less than the 150 feet to create the desired design effect. The developer feels that no waiver is required because the Findings of Fact do not provide for minimum horizontal curve radii and roads are consistent with the Findings of Fact. The radii of the pavement returns and right-of-way returns appear to be less than required by Section 302.9 of the SALDO. This item is probably not covered by the Findings of Fact as is the question of clear sight triangles at intersections."

The Plans show the following proposed road sections having a radius of less than 150 feet:

- a. ***Laurel Run at Station 6+00, 20+00, 22+00 and 25+00.***
- b. ***Clearwater Drive at the dead-end section at the intersection with Lake View Drive.***
- c. ***Court A at the intersection with Lake View Drive.***
- d. ***Court B Emergency Access at Station 5+00.***
- e. ***Glen Hollow Drive at Station 0+50, 2+00, 3+00, 3+50, 7+50 and 11+33.***

Fire truck movement plans shall be prepared for the emergency vehicles which would serve the site and be submitted to the fire company for review to confirm that the fire trucks and other emergency service vehicles could safely navigate the site. Or confirmation with submission documents and correspondence from the fire company shall be provided. Refer to Condition 4 Comments below. In addition, the proposed radii shall be shown on the plan to determine the degree of difference between the required radii and the proposed radii.

2. Comment satisfied.
3. "The right-of-way on Court A has been removed. The question of the parking spaces being partly in the right-of-way has not been addressed. I believe the parking areas should be totally within either the right-of-way or totally out of the right-of-way." ***The parking on Court B at Station 2+00, Lake View Terrace at Station 6+00 and Lake View Terrace at Station 13+00 as shown on the Layout Plan (Sheet 5 of 37) is partially in and partially out of the road right of way as indicated by the right-of-way lines, however, the bearings and distances indicate that the parking areas are included within the road rights-of-way. It appears the plans shall***

be revised to show the parking completely out of the road rights-of-way following the bearings and distances shown.

In addition, the drive loop which serves Units 176 through 179 is shown outside of the Glen Hollow Drive right-of-way line. The plans shall note the ownership and maintenance plan for this loop.

4. "The intensity of the light fixtures has been indicated." *The intensities are no longer shown on the plan. The plan shall be revised to show the intensities at each light fixture, and details of the fixtures and poles shall be provided on the Details Plans (Sheets 31 through 36). Additional comments may result upon review of the revised plan.*
5. "The designer states that revised plans are being submitted to the water and sewage agency for their review and approval. The status of approval is not known. The designer states that the comments of the fire chief have been incorporated on the plans. I do not know what the fire chief's comments were." *The Authorization to Discharge Under the National Pollutant Discharge Elimination System Discharge Requirements for Non-Municipal Sewage Treatment Works, NPDES Permit No. PA-0061786 expired February 15, 2009. This shall be addressed, and a current permit shall be provided. In addition, a copy of the Fire Chief's comments shall be submitted to the Township.*

The following comments are related to the conditions imposed by the Planning Commission provided in the Boucher & James; Inc. letter dated December 14, 2005.

1. Comment satisfied.
2. "A safety rail has been added across the dam as shown on Sheet 6 of 32. It is not known if it will serve as a guide rail. Guide rail on both sides of the roadway over the dam may be advisable." *Guiderail is now shown on both sides of Lake View Drive on the Layout Plan (Sheet 6 of 37). A detail of the proposed guiderail shall be provided on the Details Plans (Sheets 31 through 36).*
3. "The E & S Plan should provide for stabilization of all slopes. The status of review and approval of the E & S Plan by Monroe County Conservation District is not known." *The Attachment 4 Summary sheet notes that a PADEP Chapter 102 Individual NPDES 102 Permit #PAD450104 has been issued and is in effect until May 24, 2025.*

The Erosion & Sedimentation Control Plans (Sheet 20 through 25) shall be revised to provide erosion control matting on all proposed steep slope areas and the Details Plans (Sheets 31 through 36) shall be revised to provide a detail of the erosion control matting. An updated revision date shall be added to the Plans and the Plans shall be resubmitted to the Monroe County Conservation District for an updated determination of adequacy.

4. "Tree Protection fencing has been added to the Grading Plans." *A tree protection fence detail shall be added to the Details Plans (Sheets 31 through 36). In addition, the Grading Plan (Sheets 8 and 9 of 37) shows tree protection fence going right through the wetlands/watercourse/stream East of the proposed Buildings 32 and 33, on Lots 102, 105, and 143, behind Lot 106, east of Lot 136, between Lots 155 and 156, behind Building 1, and between Buildings 3 and 4.*

The plans shall be revised to relocate the tree protection fence outside of these protected areas.

5. Comment satisfied.
6. “The designer states that a copy of the Master Declaration of Protective Covenants, Restriction, and Easements for Shawnee Valley Owners Association, Inc. and Supplemental Declarations for Woodland Village and Oakdale Village have been submitted to the Township.” ***The Township shall review and confirm that it is satisfied and that the Declarations are in order and acceptable for recordation.***
7. “The developer is working to coordinate with the transportation director of East Stroudsburg School District regarding bus service to/or within the development. The situation is still under review.” ***The Applicant shall update the Township on the status of this coordination with the East Stroudsburg School District and the outcome.***
8. “The developer agrees to pay the Township its cost for having the Township Engineer make quarterly reviews of the construction and report to the Township. I do not feel quarterly reviews will adequately provide the inspection required. I feel a schedule that relates to the phases of construction shall be established.” ***Prior to commencement of construction a preconstruction meeting will be required with all parties including the Township and its Engineer. A construction schedule shall also be required prior to construction and the frequency and length of observations will be based upon that schedule.***
9. “The developer has agreed to obtain all permits, approvals, etc. from all outside agencies with jurisdiction over the project before commencing construction.” ***Copies of all permits/approvals which are still outstanding shall be submitted to the Township prior to plan signature and recordation.***
10. “The designer has delivered to the Township and Township Engineers Boucher & James, revised stormwater management plans which are being reviewed by Boucher & James.” ***LVL Engineering Group has received the Post Construction Stormwater Management Report, prepared by Irick, Eberhardt, & Mientus Incorporated, dated August 11, 2005, last revised December 18, 2009. The Post Construction Stormwater Management Report has been reviewed against the December 13, 2005, review letter. Refer to the comments below.***

The following comments are related to the Boucher & James, Inc. letter dated December 13, 2005.

1. “In accordance with SALDO Chapter 26, Appendix B.5, all areas where drainage patterns or watercourses traverse a subdivision or area of earth disturbance require a drainage easement. Said easement should conform with the line of the existing drainage pattern. The width of the easement shall be adequate to provide for unimpeded flow of storm runoff based on calculations of the fifty-year return period runoff and provide a freeboard allowance of one-half foot (1/2) above the design water service level. All culvert pipes at crossing locations which traverse existing drainage channels on “Water of the United States” must be designed with Inlet/Outlet Control and should demonstrate compliance with the above criteria without overtopping the roadways. The plans should be revised accordingly. ***Areas surrounding some of the Waters of the US appear to be either open space or easements. These areas need to be***

clarified. Also, some of the Waters of the US traverse across lots (i.e., Lots 102 and 105) without any easements. Clarification must be given as to the extent of the line work for the Waters of the US, as these areas must allow for the fifty-year flow in accordance with the above referenced criteria.” The proposed grading on Lots 102, 103, 179, 180, and 181 appear to be immediately adjacent to or within the Conservation Drainage Easement. The plan shall be revised to show the easement and proposed grading on the same sheet to determine if the grading should be revised.

In addition, a drainage or conservation easement has not been provided for the Waters of US, wetland areas, Shawnee Creek and the 100 Year Floodplain which are located within the Open Space Areas. The Waters of US, wetland areas, Shawnee Creek and the 100 Year Floodplain within the Open Space areas shall be contained within a drainage or conservation easement to protect these areas from disturbance. The plans shall be revised accordingly to provide these easements.

2. *“In accordance with SALDO Chapter 26, Appendix B.7.B.1.h., a basin less than three feet (3’) deep may have three (3) to one (1) side slopes if fencing is provided. A gate shall be installed to allow access to the basins for maintenance. Fences must be provided on all basins deeper than three (3) feet and/or with three (3) to one (1) side slopes (Previous Comment #3). The Applicant has stated that due to the nature of the site and design considerations, they are requesting not to be required to install fencing around the storm basins. The Board of Supervisors should consider the Applicant’s request.” **The fence is required and shall be provided. Also refer to Condition 5.***
3. *“In accordance with SALDO Chapter 26, Appendix B.7.B.2. all basins shall have, at a minimum, a primary outlet used to control the design storm and an emergency spillway to safely convey the 100-year design storm with one (1) foot of freeboard. (Previous Comment #6) **The basins should be revised to provide spillways capable of safely conveying the 100-year storm. The Applicant has requested that the freeboard requirement be reduced from 1.0’ to 0.5’ during the 100-year storm event due to the minimal size of the basins and the fact that all spillway discharge is directly to Shawnee Creek. This request is reasonable and should be considered by the Board of Supervisors” The Post Construction Stormwater Management Report does not provide Hydrograph information for the 100 Year Storm or emergency spillway capacity calculations. The Post Construction Stormwater Management Report shall be revised to provide 100 Year storm hydrographs and emergency spillway calculations. These shall be provided to determine the degree of the request to reduce the freeboard from 1-foot to 0.5-feet.***

It appears the Applicant will be requesting a waiver to not be required to provide the required freeboard. A waiver from Section 227.4 of the current Stormwater Management Ordinance will be required, and the waiver request shall be noted on the Plot Plan (Sheet 1 of 37) for each basin for which the waiver will apply.

4. *“The Applicant must provide Time of Concentration (Tc) calculations sheets for all basins, inlets, and culvert pipes as well as Tc paths of each on the plan. The minimum time of concentration for post-developed flow should be five (5) minutes. Pipes 2-4 indicate times of concentrations of less than five (5) minutes. Also, the pre-development time of concentration of five (5) minutes does not appear to be sufficient for Basin #1. The Applicant should clarify this time within the above requested calculations (Previous Comment #12). **The Applicant***

*should provide time of concentration calculations for all existing and proposed drainage areas. For example, the Pre-Development Tc for Basin #1 still indicates five (5) minutes. A quick check revealed a time of concentration of around 10 minutes. A separate calculation sheet for each area should be provided, as each drainage area is unique in its flow path and slopes.” **The Post Construction Stormwater Management Report shall be revised to include the time of concentration calculation sheets and changes to the time of concentrations in the pre-development and post development hydrographs as noted above.***

5. “There is no documentation demonstrating how the incremental Q (CFS) was formulated for all of the “Crossing” pipes. Documentation of these flows must be provided. The entire drainage areas for said “Crossing” shall be shown, with areas and times of concentration labeled. Channel calculations shall also be provided (Previous Comment #16) *The Applicant has provided time of concentration calculations for all of the “Crossing” culverts with the exception of Crossing #22. The flow from the time of concentration of the URDC Report is concentrated. Therefore, any continuation of flow calculations (i.e., Tc) should be Channel Flow only. The calculations should be revised accordingly.” **The Post Construction Management Report shall be revised to provide the time of concentration calculations as noted above.***

6. “Roadside swales appear to be running through perpendicular roadside parking of multi-family units and single family attached units on Sheets 7 and 10 of 32. The Applicant should re-examine this grading scheme to avoid concentrated flow within parking and driveway areas. (Previous Comment #18). *Additional inlets and stormwater piping should be provided in front of the proposed units shown on Sheets 7 and 10 of 32, as drainage swales continue to convey concentrated flows (in most cases exceeding six inches (6”) in flow depth) through the center of the proposed driveway parking spaces. The swales should be concentrated at the edge of the roadway and periodically collected by inlets. Also, as currently shown, Inlet #16A is not within the proposed drainage swale and would not collect the runoff from Swale 16B.” **The Grading Plans (Sheets 8 through 12 of 37) show that this comment still must be addressed.***

In addition, the drainage swales also continue across the driveways of the single family detached homes and Inlet 19A is not within the proposed drainage swale. The plans shall be revised to address the above concerns.

7. “Sheet 9 of 31 indicates an Invert Out Elevation of 448.00 for Pipe #10. The proposed 450.00 contour is shown in front of the headwall, with the 448.00 contour crossing the 450.00 contour to meet the headwall. The plans shall be revised accordingly (Previous Comment #22). *The grading of this drainage swale does not appear to provide adequate positive drainage and should be revised accordingly.” **The proposed 452 and 450 contours in the water quality swale do not agree with the headwall invert in elevation of 450.00 for Pipe #10.***

In addition, the Grading Plan (Sheet 10 of 37) and Storm Sewer Tabulation in Appendix G of the Post Construction Stormwater Management Report note the pipe diameter as 18-inches, however, the Laurel Run Profile on the Storm Profiles Plan (Sheet 30 of 37) note the diameter as 24-inches. The Plans shall be corrected for consistency.

8. On Sheet 10 of 31 there are swales on the ends of Mt. Laurel Ct. that terminate at traffic circles. Concentrated flow shall not be permitted to discharge across the roadway. The plans shall be revised accordingly (Previous Comment # 25) *The swale on the northeast side of Mt. Laurel*

Ct. continues to terminate at the One-Way Circle. This discrepancy must be corrected.” As shown on the Grading Plan (Sheet 10 of 37), this grading/drainage issue shall still be resolved.

9. “Stormwater detention basins should be designed to include outlet structures with orifices and weirs to prevent clogging of small diameter discharge pipes (i.e., 6” diameter). The outlet structures should be equipped with trash racks to provide for ease of maintenance (Previous Comment # 27). *The Applicant has stated that they are reviewing reasonable alternative solutions to prevent outlet structures from clogging. A proposal will be submitted to the Township prior to Final Plan Approval.” Trash racks shall be provided on all outlet control structures and shall be shown on the plans. Trash racks shall also be provided for all headwalls, endwalls and flared end sections. This shall be noted on the Utility Plans (Sheets 14 through 18 of 37). Trash rack details shall be provided on the Details Plans (Sheets 31 through 36 of 37) and a schedule shall be provided which lists the headwalls, endwalls and flared end sections by number.*
10. “There shall be three (3) overall drainage plans provided. There should be one plan depicting the existing drainage areas and times of concentration to identified points of interest. A second plan should depict the proposed drainage areas and times of concentration to the same points of interest. The third plan should be an inlet/culvert drainage area plan, much like the PCSM Plan – Stage 1B provided. This plan sheet should be revised to identify the destination of each sub area (i.e., “2.8 AC to Basin 3” or “2.0 AC Bypass A”) (Previous Comment #30). *The Applicant has provided revised drainage plans. However, the existing time of concentration flow paths have not been included for each area. The drainage plans should be revised accordingly.” The Predevelopment and Post Development Drainage Area Maps shall be provided and shall include Drainage area, labels as noted above, flow paths and time of concentration clearly shown on each Drainage Area Map, and which correspond with the Post Construction Stormwater Management Report and PCSM Plans (Sheets 1 through 12 of 12).*
11. Comment satisfied.
12. “The pipe calculations indicate headwalls at every pipe. All headwalls must be shown on the grading plans to verify adequate grading at these locations. Also, the outlet structure for Basin 2 must be shown on the plans (Previous Comment #33). *All culvert pipes under roadways should have a headwall to minimize the possibility of erosion under the roadway. The Plans should be revised accordingly”.*

The proposed headwalls (and riprap) at the intersection of Court A and Lake View Drive, on Lot 110, Lot 115, Lot 190 and Building 9 are partially located in the sidewalk, as shown on the Grading Plans (Sheets 9 through 12 of 37). The plans shall be revised to relocate the headwalls and riprap out of the sidewalk.

The proposed 15-inch, 18-inch and 24-inch culverts under the driveways on Lots 104, 110, 115, 116, 117, 118, 124, 125, 126, 128, 129, 130, 134, 135, and 136, and Building 9 shall have end treatments such as a flared end section or headwall on the upstream and downstream end of the pipes. The plans shall be revised accordingly.

13. Comment satisfied.
14. “Based on the drainage areas presented on the PCSM Plan it would appear that two or more drainage areas totaling 12.0 acres will drain to and be detained by Basin #7. The calculations must be revised to reflect this additional area.” ***It appears that this comment no longer applies to the project.***
15. “The flow path for Pipe #1 should be revised to reflect the entire drainage area. According to the pipe calculations on Page #1G, the drainage area to Pipe #1 is 8.90 acres. A time of concentration of 7.88 minutes (Page #15G) is not representative of this area and should be revised accordingly.” ***The time of concentration for Pipe 1 is noted as 14 minutes in the Storm Sewer Tabulation on Page #1G. It appears from the drainage area shown for Pipe 1 on the PCSM Plan (Sheet 7 of 12) that the time of concentration is 5 minutes. The Storm Sewer Tabulation in Appendix G of the Post Construction Stormwater Management Report shall be revised to note the correct time of concentration.***
16. “The time of concentration calculations provided in Appendix G do not match the times of concentration in the pipe calculations for all areas. These discrepancies must be corrected.” ***The time of concentration used in the Storm Sewer Tabulation, Appendix G, for Pipe 1, Pipe 2, Pipe 3, Pipe 4, Pipe 8, Pipe 10, Pipe 11, Pipe 12, Pipe 20, and Pipe 22 do not appear to be correct and shall be revised to 5 minutes.***

In addition, in accordance with Stormwater Management Ordinance Section 1301.7.P,

- 1) “A five (5) minute storm duration shall be used if this duration does not result in a maximum expected discharge that exceeds the capacity of a thirty (30) inch pipe.”
- 2) If a five (5) minute storm duration results in a pipe size exceeding thirty (30) inches, the time of concentration approach shall be used in determining storm duration.
- 3) If a five (5) minute storm duration results in a pipe size exceeding thirty (30) inches, within any run of pipe, the time of concentration approach may be used for sizing of pipes from that point on by adjusting the time of concentration.”

The times of concentration for Pipe 6A to 6B, Pipe 7, Pipe 9, Pipe 18, Pipe 21, and Pipe 26 are all greater than 5 minutes and the pipe sizes are less than 30 inch, as noted in the Storm Water Tabulation, Appendix G. The Storm Sewer Tabulation shall be revised to utilize a five-minute time of concentration for these pipes, as well.

Also, the drainage areas for Pipe 26, Crossing #9, and Crossing #22 do not appear to be correct, when compared to the PCSM Plans (Sheets 3 through 8 of 12). The Design Engineer shall confirm these areas.

17. “Crossing #12 appears to be diverting the Waters of the US into the wetlands that drain to Sun Mountain Lake. Swale #5B has been proposed directly adjacent to the existing Waters of the US. The arrangement appears awkward, and the Applicant should more clearly indicate the drainage patterns within this proposed area.” ***The Design Engineer shall address this concern.***

18. “There is no documentation of the Drainage Area contributing to Crossing #22. The pipe calculations in Appendix G only indicate a flow of 13.80 CFS. This flow is suspect, as all of the other Crossings indicate drainage areas of 34+ acres with flows of at least 43 CFS. The drainage area for Crossing #22 appears to be similar to that of the other Crossings.” ***There is no drainage area given for Crossing #22 in the Storm Sewer Tabulation, Appendix G. The PCSM Plan (Sheet 6 of 12) notes a drainage area of 67.0 acres. The Storm Sewer Tabulation shall be revised to note the drainage area and update the calculations, accordingly.***

19. “The following are comments regarding the recently submitted Swale Calculations:

a. The majority of the swales design in Appendix G are not accurately drafted on the plans. The proposed slopes and total depths should be evident on the plans, and these should correlate with the swale calculations. Most of the swales are designed with at least a one (1’) foot total depth. The grading should be revised to reflect the true depths and slopes of the swales. Also, the grading and the associated calculations should be revised to account for significant changes in slopes.”

The grading shown on the PCSM Plans (Sheets 3 through 8 of 12) for the following swales does not agree with the information given in Appendix F of the Post Construction Stormwater Management Report:

- i. Swale 1 - The slope noted in the PCSM Report appears to be higher than on the PCSM Plan for Swales 1, 5, 13, 25, and CR22.***
- ii. The top width noted in the PCSM Report appears to be higher than on the PCSM Plan for Swales 8 and 24.***
- iii. Swale CR12 – the bottom width noted in the Swale Chart on the PCSM Details Plan appears to be incorrect and is not consistent with the bottom width given in the PCSM Report.***

b. Comment satisfied.

c. Comment Satisfied.

d. “There are various undefined drainage swales which will require design and calculations. These include sections but are not limited to along Lot 149 (Lake View Drive), Lots 141/142, Lots 8/20, Lots 16/17/19 into Basin 4, Lots 183*189, Lots 190/194, and Lots 198/204. The plans should be revisited to clarify all undefined swales.” ***This comment shall still be addressed for Lots 149, 183/189 and 190/194.***

e. Comment satisfied.

f. Comment satisfied.

g. Comment satisfied.

h. Comment satisfied.

20. Comment satisfied.

21. Comment satisfied.
22. “The Applicant should demonstrate how stormwater will be managed to protect down gradient properties from runoff. The grading should be revised to demonstrate protection of Lots 2, 4 and 6 from runoff generated at Lots 137 through 142. The grading plan currently indicates runoff will flow into the rear of these units.” ***Elevations shall be shown on the plan for all high points directing runoff away from the houses and buildings.***

In addition, exterior corner elevations shall be provided for all houses and buildings to confirm positive surface drainage away from all houses and buildings.
23. “As previously discussed, the Applicant should supply typical lot grading details for various grading scenarios (i.e., drainage from front to back, from side to side, from back to front, etc.) for each type of housing. These details should demonstrate protection of down gradient properties from cross lot drainage. For example, Lots 21 and 23 drain towards 158, 159 and 160 and Lots 167 through 171 drain towards Lots 161 through 166.” ***High point elevations and exterior building corner elevations shall be provided for all of the houses and buildings to demonstrate positive surface drainage away from the houses and buildings.***

CONDITION 3 COMMENTS

That appropriate improvements security and/or bonds be provided for the project for completion of the work.

1. In accordance with Sections 1503 and 1504 of the Subdivision and Land Development Ordinance, “no plan shall receive final approval unless the streets shown have been improved to a permanently passable condition, or improved as may be required by this Chapter, and any walkways, bikeways, curbs, gutters, streetlights, fire hydrants, shade trees, landscaping, parking lots, line striping, stormwater management facilities, erosion and sedimentation control measures, water mains, sanitary sewers, storm drains and other improvements as may be required by this Chapter or the Smithfield Township Zoning Ordinance [Chapter 27] have been installed. In lieu of the completion of any improvements, the applicant/developer shall furnish to the Township financial security with such surety as the Board of Supervisors shall approve, in an amount sufficient to cover the costs of any improvements which may be required. Such financial security shall provide for and secure to the public the completion of any improvements which may be required on or before the date fixed in the formal action of approval or accompanying agreement for completion of improvements. The amount of financial security to be posted for completion of the required improvements shall be equal to one hundred ten percent (110%) of the cost of completion estimated as of ninety (90) days following the date of scheduled for completion by the applicant/developer. Annually, the Township may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the ninetieth (90th) day after either the original date scheduled of completion or a rescheduled date of completion. Subsequent to said adjustment, the Township may require the applicant/developer to post additional security in order to assure that the financial security equals said one hundred ten percent (110%). Any additional security shall be posted by the applicant/developer in accordance with this Section.” ***A construction cost estimate for the improvements shall be provided for review and financial security shall be posted prior to plan recordation.***

CONDITION 4 COMMENTS

That the Developer work with the Shawnee Fire Chief and Township Engineer to determine if emergency vehicles can safely negotiate the two curves discussed in John Henning's review letter. If said Fire Chief and Township Engineer determine that they cannot, then the horizontal curve radii of these roads will be increased to the minimum radii necessary to allow emergency vehicles to safely negotiate the curves.

1. The Plans show the following proposed road sections having a radius of less than the required 150 feet:
 - a. Laurel Run at Station 6+00, 20+00, 22+00 and 25+00.
 - b. Clearwater Drive at the dead-end section at the intersection with Lake View Drive.
 - c. Court A at the intersection with Lake View Drive.
 - d. Court B Emergency Access at Station 5+00.
 - e. Glen Hollow Drive at Station 0+50, 2+00, 3+00, 3+50, 7+50 and 11+33.

Fire truck movement plans shall be prepared for the emergency vehicles which would serve the site and be submitted to the fire company for review to confirm that the fire trucks and other emergency service vehicles could safely navigate the site. Or confirmation with submission documents and correspondence from the fire company shall be provided. In addition, the proposed radii shall be shown on the plan to determine the degree of difference between the required radii and the proposed radii.

CONDITION 5 COMMENTS

That split rail fencing be provided around the detention basins.

1. The required fencing shall still be provided as required. The plan view shall be revised, and a detail shall be provided.

STORMWATER MANAGEMENT ORDINANCE COMMENTS

1. In accordance with Section 225.2, "General. Proposed conditions rates of runoff from any regulated activity shall not exceed the peak release rates of runoff prior to development for the design storms specified on the Stormwater Management District Watershed Map (Appendix D) and §222 of this Part." ***The site is within the Stormwater Management District C. A Peak flow summary chart for the 2 through 100 Year Storm events shall be provided in the PCSM Report which shall provide Predevelopment and Proposed Post Development Peak flows for each storm.***

In addition, Predevelopment and Post Development Hydrographs shall be provided for the 2 through 100 Year Storm events.

2. In accordance with Section 1302.5.C, "Maintenance of all drainage facilities and watercourses, both existing and proposed, within any proposed subdivision or land development shall be the responsibility of the applicant/developer until such time as one of the following is accomplished:

- 1) A right-of-way for these facilities is offered for dedication by the applicant/developer and is accepted by the Township; it shall then be the responsibility of the Township.
- 2) An easement acceptable to the Township is established. in the case of a subdivision, the maintenance shall then be the responsibility of the individual lot owners over whose property the casement passes. For land developments, the maintenance shall then be the responsibility of the applicant/developer.
- 3) A homeowners' association, approved by the Township, assumes responsibility for the maintenance of the development, including the maintenance of the watercourses and/or drainage facilities."

The Applicant shall discuss ownership and maintenance with the Township.

3. In accordance with Section 1502.1., "Before the Board of Supervisors shall cause its approval to be endorsed on the final plans of any subdivision or land development and as a requirement for the approval thereof, the applicant/developer shall enter into a written agreement with the Township in the manner and form set forth by the Township Solicitor to guarantee the construction and installation of all improvements at the applicant/developer's expense required by this Chapter. When requested by the applicant/developer, in order to facilitate financing, the Board of Supervisors shall furnish the applicant/developer with a signed copy of a resolution indicating approval of the final plan contingent upon the applicant/developer obtaining satisfactory financial security. The final plan or record plan shall not be signed nor recorded until the financial improvement's agreement is executed. The resolution or letter of contingent approval shall expire and be deemed to be revoked if the financial security agreement is not executed within ninety (90) days unless a written extension is granted by the Board of Supervisors." ***Financial Security shall be established for the project. The Applicant shall submit a construction cost estimate for the improvements to determine the escrow amount which will be required.***
4. In accordance with Section 1508, "Where the Township accepts dedication of all or some of the required improvements following completion, the Township shall require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as shown on the final plan. The maintenance period shall be eighteen (18) months from the date of acceptance of dedication. The financial security shall be of the same type as described in these regulations, and the amount of the financial security for maintenance shall be fifteen percent (15%) of the actual cost of installation of said improvements." ***The required 15% financial security shall be provided should the Township accept dedication of any improvements.***

MISCELLANEOUS COMMENTS

1. All requested waivers from the Chapter 22 Subdivision and Land Development Ordinance and Chapter 26 Stormwater Management Ordinance shall be listed by Ordinance, Ordinance Section, and request on the Plot Plan (Sheet 1 of 37) with date(s) of approval.

The above comments represent a thorough and comprehensive review of the limited information submitted with the intent of giving the Township the best direction possible. However, due to the number and nature of the comments in this review, the receipt of new information may generate new comments.

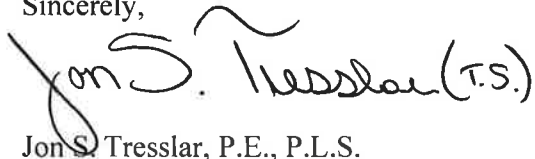
We recommend the above comments be addressed to the satisfaction of Smithfield Township, prior to approval of the Final Land Development Plan.

In order to facilitate an efficient re-review of revised plans, the Engineer shall provide a letter, addressing item by item, their action in response to each of our comments.

If you should have any questions regarding the above comments, please contact me.

If you should have any questions, please contact me.

Sincerely,

A handwritten signature in black ink that reads "Jon S. Tresslar (T.S.)". The signature is written in a cursive style with a large, stylized initial "J".

Jon S. Tresslar, P.E., P.L.S.
Township Engineer

JST/meh/tms

cc: Ronold J. Karasek, Esquire – Smithfield Township Solicitor
Ken Wolf, Zoning Officer – Smithfield Township
Julia Heilakka, Officer Manager – Smithfield Township
Estelle Eberhardt, P.E., Irick, Eberhardt & Mientus – Applicant's Engineer
Urban Research & Development Corporation
Ted Hunter, Shawnee Stage 1, LLC –Owner/Applicant
Melissa E. Hutchison, P.E. – LVL Engineering Group