

February 22, 2023

Steven Worthington, PE  
Christopher Consultants  
11551 Nuckols Road  
Suite Z-1  
Glen Allen, VA 23059

**RE: Parkside Townes**  
**LOCATION: 5401 Whiteside Road**  
**FILE NO: 5570 POD2022-00340**

Dear Mr. Worthington:

We have reviewed the construction plans submitted to the Departments of Public Utilities on February 1, 2023.

Please address the following comments and resubmit revised construction plans for review. Water and Sewer Agreements that must be executed by the Owner and County for water and sewer improvements have not been executed.

**General:**

1. Agreements have not been executed at this time. Agreements must be executed prior to the authorization to begin utility construction or approval of building permits. An Information Sheet for the Preparation of Utility Agreements has not been submitted for review. If the Information Sheet is incomplete when submitted, we will send you comments for correction and resubmittal. If the required Information Sheet is complete when submitted, an Agreement will be forwarded to the Owner for signature within 21 days.
2. Provide an exception request to the Director of Public Utilities for fire hydrants that are less than 50' from buildings and include the justification for the exception.
3. As previously commented perform a corrosive soil study by taking soil samples along the proposed waterline alignment area in accordance with Henrico DPU standard 4.2.02G. Provide protection of water main and appurtenances against aggressive soils in accordance with DIPRA recommendations and the DI pipe manufacturer recommendations.
4. Revise and resubmit the Engineering Report and Project Summary Report. The engineer is to provide hydraulic calculations per criteria described in the last comment letter. Coordinate information from these forms and calculations with the plans.
5. Engineer to provide hydraulic calculations demonstrating adequate residual pressure throughout the system assuming fire flow at worst case fire hydrant(s). The criteria and provisions to be met can be found on the previous comment letter sent by DPU.

**C000 (Cover Sheet)**

6. P.E. Seal with original signature and date is required on the Cover Sheet. A facsimile of seal, signature and date is acceptable on all other sheets.

**C201 (Site Details)**

7. Are there any fire division walls or building separation walls between the townhouses?

**C300 (Existing Conditions and Demolition Plan)**

8. Correct to say 8" plug to be removed near the existing fire hydrant.
9. Show the correct lay out of the existing waterline and include a call out for the removal of the 12" plug on Whiteside Road.
10. Specify the material of the existing water mains.
11. Is there an existing drain field/septic tank that needs to be abandoned along with the existing well?
12. Reference the deed book and page number of the existing easement.

**C351 (Master Utility Plan)**

13. Include the proposed tie in to the existing 12" water main.

**C400-C402 (Site and Utility Plan)**

14. Revise the CSB/CWB page to 284NE.
15. Provide and show easements for all proposed utilities.
16. The offsite easement must be recorded prior to plan approval.
17. Specify the material of 6" laterals.
18. Include a note on the plans stating "HOA will own and maintain all sanitary sewer laterals from the main to the building.". The engineer is to make sure that the same statement is made on the approved plat and in the HOA covenants. Please provide DPU with a copy of the covenants as well.
19. Specify the distance between the waterline to the face or back of the curb.
20. Is there adequate separation between the water main and storm sewer at Whiteside and Pine Fringe place to install the valve that is part of the TS&V assembly?
21. Adjust the water line so the valve is not in the concrete apron.
22. Provide a minimum of 8' of separation between the water main and storm sewer as well as sanitary and storm.
23. Pertaining to water meters: Shift the positions while maintaining minimum separations. 3' for water meters on opposite sides of the main and 5' for same side of the water main
  - Adjust the water meters serving blocks E,F,K, and L to have at least 3' separation.
  - Adjust the water meter, serving block S lot 3, away from the valve and to have at least 5' separation from neighboring lot.
  - Extend the water meters serving blocks T, V, and X as they are too close to the storm line.
  - There are two water meters (block T lot 1 and block U lot 2) that are too close to bends in the water main.
24. Due to the amount of storm sewer conflicts, the following comments have been generated regarding fire hydrants:

- The FH in between blocks F and I should be on the opposite side of the street and in between blocks E and H.
  - Adjust the water main along Whiteside Rd to have a minimum coverage of 3.5' throughout. Flatten the slope of the storm pipe along the same area so that the fire hydrant lead in between blocks G and J can go over the proposed storm pipes.
  - If possible, use a 8"x8" cross in the intersection of Greenpark Rd and Landing Hill St to extend the water main along the right side of Block L. Move the proposed FH to branch off this main to be located closer to the P.T of corner near Landing Hill Lane and Landing Hill St.
  - Relocate the FH in between blocks V and X to be on the other side of the street. The lateral serving Block V lot 5 may need to be shifted to the right to allow adequate separation.
25. Label the two 8" 11.25° bends to the right of block K.
26. Relay the storm pipe (120-110) about 10° more to the northeast. Relocate the proposed flushing hydrant (across block R lot 4) to the opened grassy area.
27. Provide a flushing hydrant before the plug at the end of the water main on Greenpark Rd for adequate flushing of the line.
28. Remove the call out of the waterline adjustment for the fire hydrant to the left of storm structure 140.
29. Revise the sanitary sewer easement for "Drybridge Commons" to page 782.
30. The sanitary sewer run from MH50 to MH40 and MH10 to EX6.1 shall be DI.
31. Include a 12" valve before the plug on Whiteside Road.
32. There is not enough room between the water main bend and storm main for a thrust block to be useful in front of Block O lot 3. Provide adequate separation from sewer main and storm pipes.
33. Will sanitary sewer MH8.1 and MH8 be utilized? If not, DPU recommends abandoning this run of pipe. Coordinate with the engineers on Drybridge Commons to discuss.
34. Use a tee connection for the sewer lateral serving Block Q Lot 1 instead of a manhole connection. Move MH10 to be further along Stage Landing Rd to achieve this.
35. Revise the incorrect call out of detail D-510 on Block P to detail D-520-2.
36. Review the lighting placement near water meters. There are still some lots that show them too close to each other.
37. Show waterline adjustments on the water main, not the hydrant leads. Update profiles accordingly.
38. Provide bearings for all sewers on the plan view.
39. Include the water pipe material in call outs. Ex: 8" DI waterline

**C405 (Water and Sewer Details)**

40. Revise water and sewer material quantities in accordance with all comments and per the following:
- Quantify 8" PVC and DI sewer.
  - Include one 12" plug.
  - Include quantity of fire hydrant assemblies.
  - Include total vertical feet for sewer manholes.
  - Revise the number of 8" and 12" gate valve and boxes to match the plans.

41. Add the following note: "Electronic markers (ball type) shall be installed on all water mains and sewer gravity mains in accordance with specification 2.2.05N and 4.2.02E of the 2014 DPU Design and Construction Standards."
42. Include detail D-520-2 for water meters being installed under ditches.

**C600-C601 (Storm Sewer Profiles and Computations)**

43. There are still multiple utility crossings that are not shown on these profiles.

**C610-C611 (Waterline Profiles)**

44. Update the "Connection to..." labels throughout profiles to say revised street names.
45. Update profiles accordingly with previous comments.
46. Revise the following for Greenpark Road Waterline Profile:
  - Add a call out to "remove existing 8" plug and tie in".
  - Show the 8" plug at the end of the main.
  - Show tee symbol at STA18+45.67.
  - Show missing sewer main crossing near STA19+50.
  - Review the "1.02 CLR" label.
47. Provide and show 4' of cover for 12" water main.
48. Revise the following for Whiteside Drive Waterline Profile:
  - Add a note and call out to "remove existing 12" plug and tie in".
  - Show the 45° bends.
49. Revise the following for Waterline "B" Profile:
  - Show the fire hydrant line/assembly.
  - Show the 12" plug at the end of the main.
  - Review the "3.55 COVER" label.
50. Revise the following for Pine Fringe Waterline Profile:
  - Show the missing sanitary sewer near STA11+15.
  - Darken the text for the fire hydrant call out.
  - Coordinate the fire hydrant symbol with the proposed grade.
51. Revise the following for Landing Hill Street Waterline Profile:
  - Show the missing sanitary sewer main near STA10+15.
  - Remove the "1.87 CLR" text as it no longer applies.
  - Coordinate the fire hydrant symbol with the proposed grade.
  - Include the Fire Hydrant call out information.
  - Show the flushing hydrant symbol.
  - Show the 8" plug at the end.
52. Revise the following for Greenpark Way Waterline Profile:
  - Remove the sanitary crossing shown at STA10+89.72.
  - Show the missing sanitary crossing near STA12+60.
  - Revise the size on the storm crossing to say 30" per plan view.

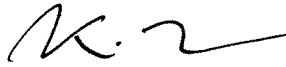
**C612-C613 (Sanitary Profiles)**

53. As previously commented, show all laterals deeper than 12 feet. In particular, the section between sanitary manholes 10 and 20 and wherever else this may apply.

54. Update profiles accordingly with previous comments.
55. Clean up the labeling in between sanitary manholes 110 and 120.
56. Revise the following for Sanitary Sewer\_STR110 to STR190 Profile:
  - Show the missing 30" storm crossing in between sanitary manholes 110 and 170.
  - Clean up the labeling of the lengths and slopes.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4993 or John Clark at 501-4501 for any necessary clarifications.

Sincerely,



Kiara Korkuc  
Utilities Engineer

cc: Craig Shelton – HHHunt Communities  
Abigail Rogers – Young Men's Christian Association of Greater Richmond

bc: Marchelle Sossong  
Daniel Ivy  
John Clark  
Aimee Crady, Planning

KLK/vr