

August 8, 2023

Marshall Agee, P.E.
VHB
115 South 15th Street
Richmond, VA 23219

**RE: Chamberlayne Multifamily Apartments
5701 Chamberlayne Rd
POD2023-00206**

Dear Mr. Agree:

We have reviewed the construction plans submitted to the Planning Department on July 20, 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 the County for water and sewer improvements **have not** been executed.

General:

1. An Information Sheet for Preparation of Agreements for Water and/or Sewer Service has been submitted. The Information Sheet allows the Department of Public Utilities to prepare the Water and Sewer Agreements which must then be executed by the Owner and the County prior to approval of building permits and/or prior to the utility pre-construction meeting and authorization to proceed with utility construction. It is recommended that the Information Sheet be submitted as soon as possible to avoid delays in either of these steps. Preparation of the Agreements may take up to 15 days after receipt of the Information Sheet and execution by the County after execution by the Owner may take up to 10 days. Conflicts between the completed Information Sheet and the plans may generate additional review comments.
2. Provide an updated Engineering Report per the plan comments.
3. Provide a NOI with the next plan submittal.
4. As previously commented, since the water system design needs to be revised to address the below comments, revised Hydraulic Calculations will need to be submitted for review to ensure adequate pressure is provided in the system. As mentioned in the DPU rezoning comments, offsite upgrades may be required to the water system to provide the needed fire flow and domestic demand to the site.

Cover Sheet:

5. Provide original signature and date on the engineer's seal.
6. Revise water and sewer material quantities in accordance with all comments.

Sheet C.301 (Demolition Plan):

7. As previously commented, label the size and material of all existing water and sewer mains.
8. As previously commented, label the size for the existing meters to be abandoned off Crenshaw Rd. See Sheet C3.02 as well.
9. The meter numbers for the existing water meters are incorrect. DPU suggests visiting the site to obtain the meter numbers from the meter boxes.
10. Clearly specify if the existing meter will be removed/abandoned on the construction plans.

Sheet C7.01 (Utility Plan):

11. Is the distance labeled from water main to the face or back of curb? Clearly identify on the plan sheet.
12. As previously commented, relocate the fire hydrant near the Clubhouse to the entrance of the site. Be sure to relocate the hydrant at the point of tangent.
13. As previously commented, show the limits of all tees and bends on the water line.
14. As previously commented, label the size of the domestic and fire system backflow preventers.
15. As previously commented, a dedicated fire hydrant and siamese connection is required for each apartment building. Specify which hydrant will be the dedicated hydrant on the plans.
16. As previously commented, relocate the water meters in the grass area and out of the sidewalk to avoid a trip hazard.
17. Specify the size of the exclusion meter on the plan.
18. Clearly show the gates on the utility plan where the water line crosses the fence line.
19. As previously commented, provide an isolation valve near the tee connection on the domestic and fire service connections.
20. Reference the size of the tapping sleeve & valve as "8" x 8" TS&V" on Chamberlayne and Crenshaw Rd. Remove the additional reference of the 8" GV. A gate valve is part of the TS&V assembly.
21. The onsite 8" water main should connect to the existing water main in Chamberlayne Rd at a 90° angle.
22. Remove the bend in the domestic service line before the meter to the Clubhouse. If the service line needs to deflect, place the bend after the water meter.
23. Reference the type of connection, size of the water meter, size and material of the domestic service line for the Clubhouse.
24. No fire hydrants should be located within 50' of the proposed building. Either relocate the fire hydrant or request an exception to DPU standards.
25. Use 45° bends in lieu of the 90° bends in the 8" water main.
26. All of the utility references are missing from the water line located east of Building-1.
27. Several water line adjustment symbols shown do not coordinate with the utility profiles.
28. As previously commented, show the direction of flow arrows on the existing sanitary sewer mains.
29. As previously commented, since the sewer is private, label all the sewer as private on the utility plan and profiles.
30. As previously commented, be sure to provide benchmarks within 500' in the area of the sanitary sewer mains.
31. As previously commented, provide internal angles at the manhole connections.
32. The sewer upstream of MH-S2 to Building-2 is labeled as 6" PVC pipe. Is there a reason why cleanouts cannot be used in replace of the manholes?
33. All sanitary sewer to be removed/abandoned must be deleted from this plan sheet and should be shown on the demolition sheet.
34. Label the slope of the sanitary sewer laterals to the buildings.
35. A monitoring manhole is required for the proposed clubhouse.
36. Several public utilities are shown out of the utility easement. Either provide a utility easement around the utilities or shift the utilities in the utility easement.

Sheet C7.03 (Profiles):

37. Show all water and sewer crossings on the storm sewer profiles. Be sure to identify the pipe (water or sewer) and referenced the size of the crossing.
38. Relocate STR-300 10' from the existing sewer main.
39. Provide the next upstream and downstream manhole from the doghouse manhole.
40. Provide the invert in for the drop connection.
41. Why is the invert out higher than the invert in at S-5?
42. The sanitary sewer profile from MH-S2 to MH-S7 is missing from the plans.

Sheet C7.04 (Profile):

- 43. Raise the water line using a 45° bend near STA 10+50 on Proposed Waterline 1.
- 44. Show the proposed valves to the proposed grade line.
- 45. The water main must be installed at a minimum of 3.5' of cover.

Sheet C10.02 and C10.03 (Utility Calculations):

- 46. Identify which Fire Flow Estimate Form is for what building.
- 47. There are no fixtures on the Domestic Meter Sizing form for the Apartments. The size of the meters cannot be confirmed until all information is provided to DPU for review.
- 48. DPU is reviewing the sanitary sewer analysis. Once the review is completed, DPU will forward any comments to the Engineer.
- 49. The hydraulic water calculation needs to include both domestic and fire flow demand. Since the domestic demand information is incomplete, an adequate review cannot be provided for the hydraulic calculations. Additional comments may be generated.
- 50. The hydraulic water model needs to pull a 1000gpm and 500gpm from the worst-case fire hydrants. Pulling 500gpm from three fire hydrants is not acceptable.
- 51. Remove the Engineering Report from the construction plans.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4508 or John Yi 501-4511.

Sincerely,



Alice Thompson
Utilities Engineer

cc: Andrew Basham, Spy Rock Real Estate Group

bc: Marchelle Sossong
Daniel Ivy
Planning

ANT/djm