

April 2, 2024

Malachi Mills, PE,  
RK&K, LLP  
2100 E Cary St, Suite 309  
Richmond, VA 23223

**RE: Seven Hills Commerce Park  
6200 Monahan Rd  
POD2023-00495**

Dear Mr. Mills:

We have reviewed the construction plans submitted to the Planning Department on March 15, 2024.

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 is required but has not yet been submitted. The Information Sheet allows the Department of Public Utilities to prepare the Water and Sewer Agreements that must then be executed by the Owner and the County prior to the authorization to begin utility construction or approval of building permits. It is recommended that the Information Sheet be submitted as soon as possible to avoid delays with the utility construction. Preparation of the agreements may take up to 15 days after receipt of the Information sheet. 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. **For all new Henrico County Department of Public Utilities Applications, such as Water and Sewer Agreements, should be submitted online through the Build Henrico customer portal under Water and Sewer Agreements within Public Utilities Review.**
2. An Engineer Report (F-1) was submitted with the construction plans; however, no signature was provided on the form.
3. Revise page 2 of the Engineering Report to correct Total Design Peak Flow. The Total Design Peak Flow is calculated by adding the Design Fire Flow plus the Peak Hour Flow.
4. Review the following comments on the Project Summary Report:
  - a. The pipe lengths do not match the length provided in the Utility Quantities.
  - b. The Maximum Day is calculated by multiplying the Average Day (GPD) by 1.75.
  - c. The Maximum Day Demand is calculated converting the Maximum Day (GPD) to GPM.

**C-5.00 Demolition Sheet:**

5. Why is the fire hydrant on Airport Drive referenced to be replaced? It is not clearly indicated on the plans.

**C-9.00 UTIL (Overall Utility Plan):**

6. Update the Material Quantities per changes made to the plan sheet.

**C-9.01 Utility Plan:**

7. The valves that have been added to the plan to address DPU previous comment need to be located near a tee fitting. See all utility sheets as well.
8. Revise the size of the fire hydrant "tee" connection from "8" x 6" tee to 12" x 6" tee at STA 4+50 since the location of the reducer has been relocated from the previous submittal.
9. Several references for couplings have been added to the plan. What is the purpose of the couplings in the pipe? Remove the coupling references from the utility plan sheets and profiles.
10. Show the water line adjustment symbol at STA 21+00.

**C-9.2 Utility Plan:**

11. As previously commented, relocate the reducers near the fire hydrant tee connection. Review the reducer between STA 8+00 and 9+00.
12. The 16" valve located before the 16" plug in Monahan Rd is missing from the plan.
13. As previously commented, change the gate valves to butterfly valves on the 16" water mains.
14. Remove the 16" GV located on the southern side of the 16" x 16" tee in Monahan Rd. The valve is unnecessary.

**C-9.3 Utility Plan:**

15. Provide a reference for the 12" GV on the northern side the 16" x 12" cross located at STA 0+00 in Seven Hill Blvd.
16. A reference for the horizontal bend is missing near the waterline adjustment between STA 0+00 and 23+00. See all utility sheets.
17. An adjustment symbol is missing between STA 14+00 and 15+00.
18. The water main crosses under the sanitary sewer several times between STA 13+00 and 16+00. Flip flop the sanitary sewer and water line in the fire lane to reduce the number of sanitary sewer and water line crossing.
19. As previously commented, valves need to be installed near tees in accordance with D-480. See all utility sheets.

**C-9.4 Utility Plan:**

20. Provide a utility easement around the fire hydrant near STA 23+00.

**C-10.00 Water Pressure Calc:**

21. The pipe information for the water model has not been included with the Water Pressure Calculations. Make sure the water model has been updated per the changes made to the plans.

**C-13.00 Storm Sewer Profiles:**

22. As previously commented, show all water and sewer crossings on the storm sewer profiles. Show the water line crossing between STR-R2-1 and R2-2.
23. Clearances have been provided on the storm sewer profile with this submittal; however, there should be 18" of vertical clearance between the bottom of the storm and top of water pipe. See Sheets 13.03 and 13.04.

**C-13.02 Storm Sewer Profiles:**

24. Several water main crossings on the storm sewer profile are referenced as 10" pipe. No 10" water pipe is shown on the utility plan. Coordinate the profiles with the utility plan.
25. DPU recommends providing additional vertical clearance between the private fire, FDC, and domestic line and storm sewer between STR 1-6 and 1-7. Review the other locations as well.

**C-13.05 Storm Sewer Profiles:**

26. Use a pier support between the 36" storm sewer cross in the existing 72" sewer pipe.

**Waterline Profiles:**

27. Review the following comments pertaining to the water line Profile:

**Sheet C13.06:**

- a. Use one (1) adjustment with four (4) 45° bends to go underneath the two storm sewer crossings between STA 0+00 and 1+00.
- b. Update the name of the profile in Monahan Rd to 16".
- c. Provide a minimum of 4' of cover for the 16" water main in Monahan Rd.
- d. Correct the size of the 8" x 6" tee at STA 4+50 on Water Main-BLDG #1 Site Profile.

**Sheet C13.07:**

- a. A reference for the 12" x 8" reducer and 12" gate valve is missing near STA 20+00 on Water Main-BLDG #1 Site Profile.
- b. Correctly show the water line adjustment at STA 21+00.
- c. The 12" x 8" reducer is in the wrong location at STA 9+00 on Water Main-BLDG #2 Site Profile.
- d. Revise the 16" water main to maintain the same elevation between STA 3+00 and 7+50. Use four (4) 45° bend to adjust under the storm sewer at STA 7+75 on Water Main-BLDG #1 Site Profile.

**Sheet C13.08:**

- e. Use four (4) 45° bend to adjust under the storm sewer at STA 13+75 on Water Main-BLDG #3 Site Profile. See STA 23+50 as well.
- f. The water main is referenced as 10" for the 11.25° bend near STA 23+50 on Water Main-BLDG #3 Site Profile. See STA 6+00 as well.
- g. There appears to be adequate clearance to install the water main over the sanitary sewer at STA 0+50. Install the 16" water main at 3.5' in this area to go over the sanitary sewer.
- h. Sanitary sewer located over the water main must be ductile iron. Correct the material of the sewer main where it crosses over the water main.
- i. Show the 72" sewer crossing near STA 2+50.
- j. Correct the size of the tee near STA 9+25.
- k. Adjust the water main to go over the sanitary sewer at STA 23+00.

28. Review the following comments pertaining to the Sanitary Sewer Profile:

- a. A drop connection is references at MH-A. No drop connection is show on the profile at this manhole.
- b. Be sure to match crowns at MH-A for the 6" sewer lateral connection. See MH-E as well.
- c. Provide the drop connection invert at MH-B.

Malachi Mills, P.E.

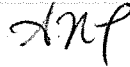
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Seven Hills Commerce Park

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

Sincerely,



Alice Thompson  
Utilities Engineer

cc: John Mason, Lingerfelt Development, LLC  
Douglass Urquhart, International Real Estate Development, Inc.

bc: Ralph Claytor  
Daniel Ivy  
Marchelle Sossong  
Spencer Norman, Planning

ANT/vr