

December 1, 2023

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

**RE: Seven Hills Commerce Park
6200 Monahan Rd
POD2023-00297**

Dear Mr. Mills:

We have reviewed the construction plans submitted to the Planning Department on November 8, 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. 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 and is being reviewed. If the Information Sheet is incomplete, we will send you comments for correction and resubmittal. If the Information Sheet is complete, an Agreement will be forwarded to the Owner for signature within 21 days.
2. No Local Review Form (Project Summary Report) was provided with this submission. Provide a completed form with all fields filled out for review.

Cover Sheet:

3. Provide original signature and date on the engineer's seal.

C-5.00 Demolition Sheet:

4. A note has been provided that all existing wells and septic tanks will be abandoned per VDJ, however, the existing onsite wells and/or septic tanks/drainfields are not shown as previously commented.

C-9.00 UTIL (Overall Utility Plan):

5. Update the Material Quantities per changes made to the plan sheet.
6. Show the limits of each plan sheet and reference the sheet number on the Overall Utility plan.

C-9.00P UTIL (Phasing Plan):

7. Be advised, final acceptance will not be granted by DPU Construction until all of the utility construction shown on the construction plan is completed. A final certificate of

occupancy will not be issued by DPU until final acceptance of the construction is granted.

C-9.1 Utility Plan:

8. Remove the sanitary sewer pipe and structure table. Identify and label the information directly on the plan. See all utility plan sheets.
9. Why is the existing valve located on the water stub called out to be removed? Utilize the valve to make the connection to the existing 12" water line stub. Install the 16" x 12" reducer after the existing 12" valve.
10. Is the distance labeled between the water line from the face or back of curb?
11. Is the proposed road shown on the plan ROW or a private road? Specify on the plans.
12. Show the meter symbols on the plan for each building. See all utility sheets as well.
13. Will an 8" x 4" tee with 2" tapped plug be installed for the proposed water meter connection or will a corp. stop be used? Determine what type of connection will be utilized for the water meter connection and provide the appropriate detail on the plans.
14. Reference the detail number for the domestic backflow preventer details in the backflow preventer callouts. See all utility sheets as well.
15. Change the fire hydrant tee connection from 12" x 6" tee to 8" x 6" tee located south of Building-1.
16. Show all valves near the tee in accordance with the fire hydrant detail per D-495 and waterline valves at tee and cross branches per D-480.
17. Flip flop the 12" valve to the other side of the tee branch before the 12" x 8" reducer located east of Building-1.
18. Provide water line stationing has been removed from the plan. Provide the water line stationing back on the plans.
19. Use two (2) 45° bends in lieu of the 90° bends.
20. The sizes of several valves are labeled incorrectly on the plan.
21. The minimum slope for sewer laterals on commercial projects within utility easement must be 2.08%. Once the sewer lateral extends out of the easement, the slope may decrease to Building Inspection Code with either a cleanout or manhole.
22. Install a monitoring manhole for each project.
23. Provide the direction of flow arrows on the proposed and existing sanitary sewer mains.
24. Provide bearings on the proposed sanitary sewer.

C-9.2 Utility Plan:

25. Provide the following note on the plans: Note that a maximum of 12" adjustment may be done utilizing pre-cast riser rings to raise frame & cover. For additional height adjustment, pre-cast manhole sections must be installed. Decreasing manhole depth must be done by removal/replacement of pre-cast manhole sections.
26. Provide a table to address the raising of existing manholes to finished grade. This table should include:
 - a. Existing top elevation
 - b. Proposed top elevation.
 - c. Amount of modification required, i.e. vertical feet of raising or lowering.
 - d. Proposed method of adjusting each manhole.

- e. Phase of construction each manhole modification is to be done.
- 27. As previously commented, provide benchmarks within 500' of the sanitary sewer area. See all utility sheets as well.
- 28. Designate MH-B1 as the MMH.
- 29. The fire hydrant located southwest of Building-2 is too close to the storm sewer. Provide a minimum of 8' separation between the two utilities.
- 30. Why did the size of the water line transition from 12" to 8" to 12" located south of Building-2? Also, the material of the 8" pipe changed as well. Review and revise as necessary.
- 31. Remove the 12" x 8" reducer located east of Building-2.
- 32. Relocate the boundary valve within the utility.
- 33. Change "PRZ" to "RPZ" in the backflow reference. Update all utility sheets accordingly.
- 34. Flip flop the 12" valve to the other side of the 12" x 12" tee branch at the end of the water line in Monahan Rd.
- 35. The water line is shown in the shoulder of Monahan Rd. The water line is too close to existing utilities and will need to be installed within the road.
- 36. A 16" x 12" reducer and 12" x 12" tee will need to be installed at the intersection of Monahan Rd and Seven Hill Blvd instead of the 16" x 12" tee referenced on the plan.

C-9.3 Utility Plan:

- 37. A 16" x 12" reducer is needed to transition the water from 16" to 12" between STA 10+00 and 11+00.
- 38. Several of the utility references are cut off the plan sheet or overlap other references. Review and revise as necessary.
- 39. Show the limits of all bends.
- 40. As previously commented, use butterfly valves on 16" water lines instead of gate valves.
- 41. All valves should be installed before the reducers on the water line.

C-9.4 Utility Plan:

- 42. Provide a tee connection, valve, and plug (water line stub) for future water main extension to the 30" water main in Charles City Rd located northwest of Building-4. Also, provide a utility easement that extends to the water line stub to the property line for the future water line extension.
- 43. Bend references has been omitted from the plan sheet.
- 44. Designate MH-G1 as the MMH.
- 45. The sanitary sewer must be designed to serve adjacent properties not served by sanitary sewer. Provide a utility easement to Parcel 820-705-8211 for future sanitary sewer extension to MH-G1.

C-9.5 Utility Plan:

- 46. The valve on the fire hydrant lead between STA 4+00 and 5+00 is shown within the gutter pan. Review and revise.

C-10.00 Water Pressure Calc:

47. DPU is reviewing the hydraulic analysis and will reach out to the engineer once the review is completed.

C-16-16.04:

48. Be sure to show all water and sewer crossings on the storm sewer profiles.

Water and Sanitary Sewer Profiles:

49. As previously commented, the 16" water main should maintain a minimum of 4' of cover.
50. As previously commented, label the private sanitary sewer on the sanitary sewer profiles.
51. As previously commented, several pipe sizes shown on the sanitary sewer profiles do not match the utility plans.
52. What is the purpose of the drop connection at MH-G?
53. Update the utility profiles per the plan comments.
54. Show the proposed grade line on the water line profiles.
55. Manholes are missing and labeled incorrectly on the sewer profiles.
56. The minimum slope on an 8" sewer pipe is .04%.
57. MH-G is profile twice but are shown and designed differently on the two profiles.
58. The water fittings referenced and/or shown on the water line profile do not coordinate with the utility plan.
59. Show all valves to the proposed grade line on the water line profile.
60. The grid lines are missing and not shown on some of the profiles. Darken the grid lines on the sanitary sewer and water line profiles.
61. The sanitary sewer upstream of MH-G should be shown as private.

Utility Details:

62. Provide the appropriate details that reflect the changes from the plan comments.

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

Malachi Mills, P.E.

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Seven Hills Commerce Park

Marchelle Sossong

Spencer Norman, Planning

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