

March 5, 2021

Jonathan Jackson  
Bowman Consulting Group  
3951 Westerre Parkway, Suite 150  
Henrico, VA 23233

**RE: Settler's Ridge, Section C  
Burning Tree Rd. & Settlers Ridge Blvd.  
FILE NO: 4588; POD2021-00060**

Dear Mr. Jackson:

We have reviewed the construction plans submitted to the Planning Department on February 17, 2021.

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.

**Sheet 1 (Cover Sheet):**

1. Revise the Plan's title on the top of the sheet to include the word "POD & Utility Plan".
2. The plan sheets are not in accordance with the sheet index. Please coordinate. Be sure that the sheet number and title provided on each individual sheet coordinates with what is shown on the sheet index.
3. A P.E. Seal with original signature and date is required on the Cover Sheet. A facsimile of seal with signature and date is acceptable on all other sheets.

**Sheet 4 (General Notes & Lots Width Table):**

4. Revise note #11 under the "Henrico County General Utility Notes" to include specification 4.2.02E. Update where necessary. Recommend moving these notes to the utility details sheet.

**Sheet 23-25 (Utility Plan):**

5. Revise the location of the existing fire hydrant on Burning Tree Road and show valves accurately.
6. Revise the "Existing 16" DI W/L" leader to point at the water line.
7. Proposed waterline in Indian River Run is tying into the wrong line in Burning Tree Road. Show the proposed water line in Indian River Run tying into the existing water line in Burning Tree Road.
8. There are several locations where water services and meters are installed at the edge of the driveways. Relocate services to a minimum of 5 feet away from driveways where possible. No water service or meter should be in the driveway.

9. Revise the irrigation callout to include: Peak Demand, corporation stop, copper pipe, detail D-534 and the size of the backflow prevention device. Update where necessary.
10. Label to install irrigation meter per detail D-534 and backflow preventer for the irrigation system per D-410.
11. Provide a distance from the proposed water line to the face of curb or back of curb on utility sheets.
12. Label to install the fire hydrant per detail D-495 instead of D-405. Revise the size of the tee to be 8"x6" tee instead of 8"x8" tee. Revise the size of the valve to be 6" instead of 8". Update where necessary.
13. Use a different symbol to distinguish the valve from a water meter and fire hydrant. It is confusing when you used the same symbols for all three items.
14. Use a different line type to distinguish the proposed sanitary sewer from the centerline.
15. Proposed fire hydrant in Lot 108 is too close to the storm sewer. Provide a minimum of 8 feet separation.
16. Show the location of the SIP.
17. Proposed meter and SIP for lot 108 & 107 are in conflict with the storm sewer.
18. Proposed meters for lot 106 and 107 are too close to the storm sewer. Relocate them further into the front yard.
19. Provide at least 5 feet of separation between the water service for lot 108 and the sewer lateral for lot 33.
20. Relocate the sewer lateral for lot 28 out of the driveway. No water meter or SIP should be in the driveway.
21. Avoid tapping the sewer lateral at same location on opposite side for lot 28 and 103.
22. Avoid tapping the water line at the same location on opposite side for lot 5 and lot 101.
23. Show the existing valves, and fire hydrant at the intersection of First Landing Court and Red Hill Club Lane.
24. Provide a proposed fire hydrant near the intersection of Red Hill Club Lane and Indian River Run.
25. Relocate sewer lateral for lot 98 to connect into the manhole.
26. Relocate sewer lateral for lot 3 away from the storm sewer.
27. Deflect the water line or add bend to keep the water line inside the pavement.
28. Use a different line type to make the sewer lateral more visible. For example, it is difficult to identify the sewer lateral for Lot 94.
29. Relocate the proposed fire hydrant on lot 94 to the intersection of Indian River Run and New Settlement Drive.
30. Why are there two labels of the existing manhole in New Settlement Drive? Delete the label Ex11 at the manhole.
31. Relocate the sewer lateral for lot 53 away from the storm inlet. SIP should be located further into the front yard to avoid conflict with the storm. Provide easement if necessary.
32. Relocate the sewer lateral for lot 54 southward to avoid conflict between the SIP and the storm sewer pipe.
33. Proposed sewer lateral for Lot 56 should connect into the manhole.
34. Relocate one of the two water service shown in lot 58 to lot 59. None of them should be in the driveway.

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35. Show the sewer lateral for lot 86 clearly. Revise the match line if necessary.
36. Delete the sewer lateral to the common area. Extend the sanitary sewer westward from manhole D and provide a lateral to lot 60.
37. Delete the label of the 8" valve at the fire hydrant near lot 60.
38. Relocate the proposed fire hydrant near lot 60 to be within 7 feet from the curb.
39. Remove the two reducer symbols in New Settlement Circle water line.
40. Proposed sanitary sewer should be 10 feet from the mail kiosk. No permanent structure can be inside of the utility easement for the sanitary sewer.
41. Proposed lateral for lot 82 is in conflict with the mail kiosk. It should not be in the driveway either. No SIP should be in the driveway.
42. Relocate proposed sewer lateral for lot 82 out of the driveway. No SIP should be in the driveway.
43. Relocate the water service for lot 81 eastward away from the sewer lateral.
44. Relocate one of the water services for lot 61 to lot 60. Relocate both water services away from the sanitary sewer manhole.
45. Relocate proposed sewer lateral for lot 61 out of the driveway. No SIP should be in the driveway.
46. Relocate the sewer lateral for lot 75 eastward away from the 6" proposed waterline.
47. Eliminate the two reducers at New Settlement Court.
48. Add an 8" valve at the intersection of New Settlement Court and New Settlement Drive.
49. Avoid tapping the sewer lateral at same location on opposite side for lot 62 and 70.
50. Avoid tapping the sewer lateral at same location on opposite side for lot 63 and 69.
51. Profile all sewer laterals and water service crossing other utilities.
52. SIP and water meter for lot 62, 63, and 64 might have to be further into the front yard to provide separation from the storm sewer.
53. A maximum of only 3 sewer laterals can be connected to the manhole. Provide the angle for each one.
54. Relocate proposed sewer lateral for lot 64, 65, 66, and 67 out of the driveway. No SIP should be in the driveway.
55. Review the long sewer lateral at 2.08% slope to be sure that it will not be in conflict with the storm and will be able to serve the site.
56. Avoid tying to the water main at a bend for lot 65.
57. Avoid crossing the storm sewer at the water main bend in front of lot 65.
58. Relocate the flushing hydrant to tee off from the 8" water line going south. Show the tee and the valve in the paved area.
59. Provide an 8" plug at the end of the waterline on New Settlement Drive.
60. Proposed sanitary sewer should not tie into the existing manhole X-1 at less than 90° angle.
61. Provide minimum floor finished for each lot.
62. Show all existing utility easements on the plan with Deed book and Page Number included. The easement must be recorded as soon as possible if it had not been recorded previously.
63. Provide utility easement for the proposed utilities.

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64. Provide 20' utility easement between Lot 96 and Lot 97 from Indian River Run to the road going toward Ansley Road for future sewer.
65. Change the size of the "Public Utility Easement" from 16' to 20' to meet current DPU Standards. Update where necessary.
66. Show the location of water line adjustment if any, on the plan view by providing a bubble or circle around the area of the adjustment as shown on the water main profiles.
67. Provide GIS manhole ID number for the existing manhole shown on the plan. Show the equivalent elevations for the existing sanitary sewer from GIS or CSB.
68. Provide the length, size, and material for the existing and proposed sewer main. Update where necessary.
69. Provide bearing, internal angle, and direction of flow for the proposed sanitary sewer.
70. Clarify whether the top of the existing manhole needs to be adjusted to grade or not. Provide a table to address the raising or lowering of existing manholes to finished grade if necessary. 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.
71. Add the following note, "The Engineer shall certify that all proposed sites will be served by gravity with sewer service connections installed at a slope of 1/4 inch per 1 foot except where shown otherwise on the plans. The depth of service connections shall be in accordance with Paragraph 13.3.7D."
72. Provide benchmarks every 500 feet to be consistent with DPU Spec. 5.5 L.
73. Resolve the overlapping texts on the plan to prevent any conflicts. For example, Street name text overlaps with station number on sheet 24. Update where necessary.
74. Reference CWB/CSB sheet on the plan.

**Sheet 30-32 (Road Profiles) & Sheet 36-38 (Drainage Profiles):**

75. Show all water and sanitary sewer crossings in the profile.

**Sheet 39-42 (Utility Profiles):**

76. Update the profile to match with the comments on the plan view.
77. Keep the proposed waterline at 3.5' of cover and use vertical bend to adjust the waterline under the storm sewer per detail D-485 if necessary.
78. What are the two dark lines from station 25+20 to 26+80 in New Settlement Drive profile supposed to be?
79. Provide 18" of clearance between the storm sewer and the water line instead of 3 feet.
80. Show both surveyed invert in and invert out at the existing manhole. Show GIS manhole ID and elevations along with the surveyed elevations.
81. Label manhole type of cover at each manhole or add a note saying all manhole tops will have the standard frame and cover.
82. Keep the proposed sanitary sewer at minimum grade to best serve the neighboring properties.
83. Show the equivalent station at manhole G (11+18).

84. Revise the graphic shown for the bottom of manhole G.
85. Show the equivalent station at manhole C (10+00).
86. Revise the bend at station 33+83 of the New Settlement Drive profile to be 22.5 degrees instead of 11.25 degrees.
87. Show the equivalent station at manhole A (10+75).

**Sheet 50&51 (Utility Details):**

88. Add Backflow Preventer for Irrigation System Detail D-410, Hydrant Detail D-495, Flushing Hydrant Detail D-500, Water Service Installation for 5/8" Meter Detail D-520-1, 1 1/2" and 2" Meter Setting Detail D-534, Trust Blocking Detail D-700, Electronic Marker Placement Details D-740 & D-750.
89. Include water and sewer material notes (Form F-6) and standard water and sewer construction notes (Form F-11) on the plan.
90. Update the quantities list to match with the plan and the comments.

**General:**

91. 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 subsequent Information Sheet submittal is complete, an Agreement will be forwarded to the Owner for signature within 21 days.
92. Submit a water system flow availability request (Form F-7).
93. Submit a completed Local Review (Form F-10) and Engineer Report (Form-1) for this project.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4601 or Carmel Duvern  at 501-7314.

Sincerely,



for : Bob Dao  
Utilities Engineer

cc: Chris Simons, SR Land Company, LLC

bc: Ralph Claytor  
Jen Cobb, DPW  
Carmel Duvern ; Megan Gallagher  
Aimee Crady, Planning

CED/tt

**REVISED CONSTRUCTION PLANS REQUIRED**