

September 21, 2022

Pollard Café/Bistro
73 Seafood Ln., Irvington, VA
TM #33-379, Lancaster Co
Sewage Flow Analysis



The proposed development on the subject parcel will consist of the conversion of an existing 1-story block building into a small café/bistro style restaurant which will have limited food preparation (typically pre-prepared, carry out style foods). The café/bistro will include a total of 40 seats, have limited hours (7am-11am & 5pm-9pm) of 8-hrs. per day.

The existing conventional drainfield (750-gallon septic tank and pump tank with four 2' x 50' lines for a flow of 325 gpd) on the northwest portion of the parcel received an original VDH permit in February, 1988 (HDID #151-88-010), was revised by a VDH permit issued October, 1997 (HDID # 151-96-099), and again was modified by a VDH permit issued October, 2020 (HDID 151-20-0117) all with satisfactory inspections/completions. The sewage system was recently inspected by Miller's Septic on August 5, 2022 and was found to be in good condition and operating as intended.

The analysis of the proposed sewage flow and character is based on the following:

1. Sewage Capacity

- a. Proposed flow is contributed by:
 - i. Café/Bistro: 40 seats @ 8 gpd per seat 320 gpd < 325 gpd existing
Based on "Restaurant" in the Code of Virginia 12VAC5-610-670, the sewage flow from a full-service restaurant is 50 gallons/seat/16hr duration. However, a similar style venue (the Vine; a specialty style operation with limited hours, 9-hrs/day) has a daily use of approximately 5.43 gpd, see attached supporting documentation. Thus, based on actual water usage of a similar use, a daily flow of 5.43 gpd/seat x SF = 1.5 = 8 gpd/seat.

2. Wastewater Characterization

- a. The existing drainfield will serve the limited 40 seat café/bistro style restaurant generating a total of 320 gpd which is similar to a typical 2-bedroom (4 person) residence drainfield.
- b. Typical Residential BOD
 - i. 4 persons/home @ avg 0.20#/person/day 0.80#/day
 - ii. Typical sewage flow (4 persons @ 75 gpd)..... 300 gpd
 - iii. Typical residential BOD 0.0027#/gal
- c. Proposed café/bistro BOD
 - i. 40 seats @ 0.02#/day 0.80#/day
 - ii. Design Flow..... 320 gpd
 - iii. Café/Bistro BOD..... 0.0025#/gal < 0.0027 #/gal
- d. Typical residential TSS
 - i. 4 persons/home @ 0.20#/person/day 0.80#/day
 - ii. Typical sewage flow (4 persons @ 75 gpd)..... 300 gpd
 - iii. Typical residential TSS..... 0.0027#/gal
- e. Proposed café/bistro TSS
 - i. 40 seats @ 0.02#/day 0.80#/day
 - ii. Design Flow..... 320 gpd
 - iii. Café/Bistro TSS 0.0025#/gal < 0.0027 #/gal

40 Cross Street
Suite 100
P.O. Box 51
Urbanna, VA 23175

3. Conclusion

- a. The Café/Bistro sewage flow is less than the existing drainfield capacity
- b. The Café/Bistro BOD is equivalent to typical residential BOD estimates
- c. The Café/Bistro TSS is equivalent to typical residential TSS estimates
- d. As the overall wastewater strength and flow for the facility is comparable to residential strength wastewater, the existing septic tank and sewage drainfield without pre-treatment will be satisfactory.

Sincerely,

Wayne A. Savage, PE
Senior Engineer

