

12/20/2023

Bob and Pam Taylor

Pitkin Hotel

Town of Pitkin, Environmental Health Board

To the members of the Pitkin Board of Environmental Health,

We are presenting our OWTS plan and specifications for your approval. The plan was designed and Engineered by SCJ Alliance in Gunnison.

The plan is for a 2,000-gallon system consisting of two 2,000-gallon tanks in series. The second tank is effluent only and will pump to the STA's (soil treatment areas). There are two STA's that will alternately be dosed. The tank will dose the STA's with 103.47 gallons per draw down cycle. In 24 hours, the system should only run about 19 cycles (1,965.93 gallons for 19 cycles).

The reason this is being presented to the board is because of concern from the Environmental health official that the system is not big enough to handle the amount of people that potentially may be served by the restaurant and bar. We feel that the numbers used to determine gallons per day, per customer, are unrealistic and would like to be allowed to prove conformance with the 2,000-gallon daily limit by way of a flow meter on the well pump or at the effluent pump (which has its own counter that cannot be tampered with.)

Specific plans are in place to reduce the water flow in showers and sinks. We will have literature in the bathrooms outlying the ways the guests can save on water use (Shaving, brushing teeth, showering, etc.) Our dishwashing system is already designed for minimal water usage. If needed, we can also do laundry in Gunnison. Additionally, the old Pitkin Hotel had 10 rooms plus an 18-occupancy bunk room plus a 6-occupancy apartment. Their septic system was 1000 gallons and ours will be 2000 gallons. We will have a new, larger and more efficient STA.

Most importantly, I also did a comparison of water usage in 2 random restaurants in my group (see attached for the bills):

Hattiesburg – 82,300 gallons per month = 2743 gallons per day. Their sales volume per year is \$4.8M. They seat 156 plus 16 bar seats. They probably have about 6-8 table turns per day and we will have roughly the same number of hours of operation (actually less) Using the formula for the state of Colorado, their consumption would be 8280 per day (156x50 + 16x30) Even with taking out the bar seats, their actual consumption based on the water bill would be 17.58 gallons per day (2743/156) or roughly 2.5 gallons per customer if you use an average of 7 people using one seat per day (156 seats x 7). See water bill attached. See Figure 1.1

Gulfport – 70,000 gallons per month = 2330 gallons per day. Their sales volume is \$6.4M per year. Table turns are about 8-10 per day. They seat 140 plus 18 bar seats. Colorado's formula would put their usage at 7540 per day (140x50 + 18x30) Their actual consumption with bar seats is 14.74 gallons per seat/per day, or roughly 1.63 gallons per customer based on an average of 9 people using one seat per day. (158 seats x 9 = 1,422 dining customers). See water bill attached. See figure 1.2

If you averaged those restaurants at 17 gallons per seat per day and put those numbers into the OWTS formula as provided by our engineers (780 gallons per day for the restaurant/bar), we could have 45 seats between the restaurant and bar that turn over 7 times in a day, (or 315 customers per day between dining and bar). See figure 1.3

It's hard to find data/studies on water usage in restaurant bathrooms but one study suggests that had washing on average is only 6 seconds per customer. *See notes*. Toilets are 1.28 gallons per flush, so with allowing each customer 1.5 toilet flushes per visit = 1.92/gallons per customer plus 12 seconds of hand washing = .5 gallons. Rough average of 2.42 gallons per customer.

In summary, we will work with the town council to accomplish whatever it takes to come into compliance.

Bob and Pam Taylor, Pitkin Hotel

Figure 1.1

Hattiesburg Actual Water Consumption vs. State of Colorado Reg. 43 Water Consumption Formula

*Seats have 6-8 turns per day (using 7 turns average), versus the State of CO Formula which assumes 1-2 turns per day.

Source	# of seats	Gallons/ Seat	Approx. Use Per Customer	Total Consumption per Day
	<i>Dining + Bar Seats</i>			
Hattiesburg actual	156+16	15.94 Gallons	15.94/7turns = 2.27	2743 Gallons/day
Colorado Formula estimate	156+16	50 Gallons	50/2 turns =25	8600 Gallons/day
Actual vs State of CO Formula		-34.06 Gallons	-22.73 Gallons	-5857 Gallons/day

Source: West Lamar Water Association Inc. 11/02/23 water bill for Half Shell Oyster House, 6555 US Hwy 98, Ste 1, Hattiesburg MS

Figure 1.2

Gulfport Actual Water Consumption vs. State of Colorado Reg. 43 Water Consumption Formula

*Seats have 6-8 turns per day (using 9 turns average), versus the State of CO Formula which assumes 1-2 turns per day.

Source	# of seats	Gallons/ Seat	Approx. Use Per Customer	Total Consumption per Day
	<i>Dining + Bar Seats</i>			
Gulfport actual	140 + 18	14.74 Gallons	1.63 Gallons	2330 Gallons/day
Colorado Formula	140 + 18	50/30 Gallons	50/2 turns =25	7540 Gallons/day
Actual vs State of CO Formula		-35.26 Gallons	23.37 Gallons	-5570 Gallons/day

Source: City of Gulfport water Department. 11/21/23 water bill for half Shell Oyster House, 2500 13th St. Gulfport MS

Figure 1.3

Pitkin Hotel projected water usage based on data from existing restaurants vs State of Colorado Reg 43 Formula which assumes 1 – 2 turns a day. *Estimating 7 turns a day for projection.

Source	# of seats	Gallons/ Seat	Approx. Use Per Customer	Total Consumption per Day
	<i>Dining + Bar Seats</i>			
Pitkin Hotel projected	35 + 10	17 Gallons	2.42 Gallons	765 Gallons/day
Pitkin Hotel Colorado formula	35 + 10	50 Gallons	50/2 turns =25	2250 Gallons/day
Actual vs State of CO Formula		-33 Gallons	-22.58 Gallons	-1485 Gallons/day

Adding the projected gallons from above to the other design flow numbers on the engineering from SCJ = 1954.6 gallons

*Hand washing study from Michigan State University 2013, <https://msutoday.msu.edu > news>