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Restaurant BOD concentrations and Significant Industrial Users

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Hi Eric, Leana and Ben

At the Apr 19 Council meeting, we heard a comment from Pat Albaugh (Port of Skamania County) that restaurants were not sampled and could be a source of high BOD, and that Skamania Lodge could be a source of high BOD. Here is information on this topic (primarily from the Stevenson General Sewer Plan/WW Facilities Plan):

- Skamania Lodge effluent BOD concentration was tested during the Industrial Waste Survey in the fall of 2016, as described in the Stevenson GSP/FP Appendix F-Pretreatment and Source Control Alternatives TM. Skamania Lodge effluent BOD concentration averaged 440 mg/L with a minimum concentration of 251 mg/L and maximum concentration of 672 mg/L.
- Table 3 from Appendix F shows that Skamania Lodge, during this sampling period, contributed 47-61% of flow, 22-38% of BOD, and 11-20% of TSS influent to the Stevenson WWTP.
- Appendix F - Pretreatment and Source Control Alternatives – Addendum is attached FYI. Please note that this is not the full TM, only the addendum. It is attached for simplicity since it shows High Strength WW sampling results.
- The July 2016 High Strength Dischargers Sampling Plan included a sampling location at Big River Grill (to capture effluent from this restaurant). However, field investigation showed that the manhole we'd hoped to sample from was actually upstream of Big River Grill and the downstream manhole included contributions from many other businesses in town. Due to cost and the limited number of samplers available, the City opted not to collect samples from this downstream manhole.
- The DOE Orange Book table G2-2 indicates typical restaurants have 0.2 ppd BOD/seat and 50 gpd/seat. This equates to $(0.2 \text{ ppd}/50 \text{ gpd}/8.34) * 1000000 = 480 \text{ mg/l}$ typical concentration.
- Here is the definition of Significant Industrial User from Stevenson's Pretreatment Ordinance:

XX. "Significant Industrial User" or "SIU". Except as provided in paragraphs (3) and (4) of this section, a Significant Industrial User is:

1. A User subject to categorical pretreatment standards; or
2. A User that:
 - a. Discharges an average of twenty-five thousand (25,000) gpd or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blowdown wastewater);
 - b. Contributes a process wastestream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or
 - c. Is designated as such by the City on the basis that it has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

As you can see by the SIU definition, restaurants won't meet any of the criteria of an SIU. To clarify: To get to 25,000 gpd you'd need a 500 seat restaurant. To get to 5% of the load limit (30.6 lbs/day), you'd need a 153 seat restaurant. I'd guess any restaurant in Stevenson is probably less than 50 seats, so they won't come close to those limits. Skamania Lodge, being similar to a combination hotel/restaurant, seems to meet the criteria of an SIU, based on the data the City collected in the fall of 2016. However, the City will have a clearer picture (more data) after the current sampling event is complete.

I hope you will find a way to distribute this information to the Council and others interested (particularly Pat Albaugh, whose comment spurred this clarification).

Feel free to call if you have questions or wish to discuss.

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2 attachments

 **Pretreatment Alternatives Memo Addendum 2017-09-22.pdf**
106K

 **Pretreatment Alternatives Memo Final 2016-12-1.pdf**
806K