

On-Site Wastewater Technical Advisory Group

June 10, 2014
Kittitas County Courthouse
County Commissioners Chambers
Ellensburg, WA

Meeting Summary

MEETING ATTENDEES

Core Group Members Present

David Jensen, P.E., Jensen Engineering
Brent Stenson, Adams County Health
Department
Eric Knoff, Indigo Design

Group Core Not Present

Peter Lombardi, L.D., Orenco
Cindy Waite, Mason Co. Health
Keith Grellner, Kitsap Co. Health District
Robert Monetta, Windermere Real Estate-
Methow Valley
Cindy Waite, Mason Co. Health

Guests

Paul Vandervelde, Glendon
Mike Moren, PE

DOH Staff

John Eliasson

INTRODUCTION:

The meeting began at 9:40 AM on April 8, 2014. There was a brief discussion on filling the public sewer utilities position currently open. A suggestion was made to contact Kelly Wynn at Water and Wastewater Management in Skagit County to find out if he's interested in being a TAG member in this position.

SUMMARY OF TECHNICAL RGF DISCUSSIONS

Concrete Containment Vessels: Changes are in section 4.2.3 and Appendix B of the draft RGF RS&G for concrete containment vessels to be reviewed and approved by the department according to the requirements in 2009 Sewage Tanks rule (WAC 246-272C). The rule exempts geomembrane containment vessels from the rule requirements, but not cast-in-place concrete tanks. Members of the group expressed interest in maintaining an allowance for using cast-in place concrete as a supporting framework to hold the liner in

place rather than using a wooden frame. Staff will work on language for this allowance so that it doesn't create a conflict with the sewage tanks rule requirements.

RGF Organic Loadings: The design hydraulic loading rate equation for filter bed sizing in section 4.2.2 was discussed. The 1150 value in the equation is derived by using an organic loading value of 0.0096 lbs BOD/ft²/day. Although design organic loading rates are not defined for RGFs, typical loadings reported in the literature range from 0.002-0.008 lbs BOD/ft²/day. Our specification for coarse pea gravel media (effective size 3-5 mm) may help compensate for using RGFs to handle high organic loadings. No changes were recommended in this section when using a RGF to treat high strength sewage other than placing the 720 mg/L BOD₅ influent threshold value that's located in the influent characteristics section after the last sentence in this section.as well.

Recirculating Pump/Tank: The following items were discussed with group recommendations:

- 1) Specifying an optimum pumping cycle is not practical when adjustments are needed to respond to varying wastewater characteristics and flows conditions in the field. A recommendation was made to change the word "optimum" to "typical" pumping cycles are for one continuous cycle every 30 minutes with the off cycle set for approximately 25 minutes.
- 2) The group agreed that the requirement for float switches to be wired in parallel with the timer can be removed, and have the guidance box in recirculating pump section refer to the timed dosing requirements in Pressure Distribution RS&G.
- 3) The group recommended updating Figure 3 with a new drawing (see draft below) showing the new OSI FRP recirculating ball valve with the feed pipe coming into the access riser instead of the sidewall of the tank so that the valve can be easily removed from above for maintenance. Recommendations were also made to remove the pump screen in Figure 3, and show floats settings consistent with the timed dosing requirements in the pressure distribution RS&G (no timer override float).

Figure 3 (existing)

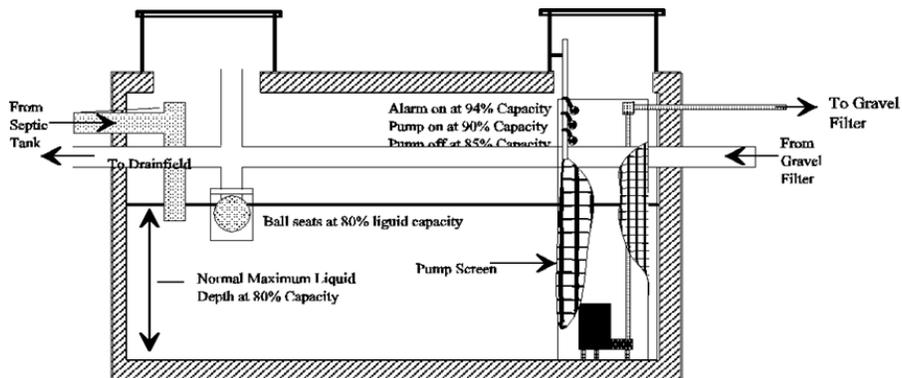
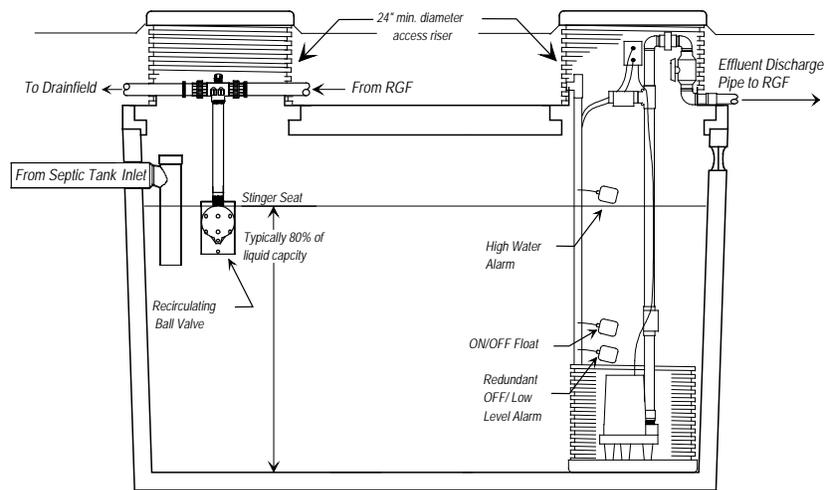


Figure 3 (proposed)



Internal Pumpwell Allowance:

Because RGFs are normally designed with an underdrain that provides a gravity return flow to the recirculation tank, the group discussed whether or not the allowance to use an internal pumpwell in the filter bed should be kept in the RS&G. Members of the group expressed interest in maintaining this allowance for sites where pumping back to the recirculation tank is needed due to site elevation constraints. The splitter basin in section 4.4.3 provides a method for splitting the return flow from a RGF with the flow pumped from the internal pumpwell to the basin.

Watertight Boot Standards for the Vegetated Denitrifying Woodchip Bed:

Following the practice of placing the boot outlet with clamps on the outside of the PVC liner and embedding it in sand resulted in the boot leaking from the pressure head (approximately 3 feet of water) in the vegetated denitrifying woodchip bed (VDWB). As a possible method to address the head pressure specific to the VDWB on the boot, staff recommends placing the outlet of the boot with clamps on the inside of the bed. This appears to be the typical recommended on boot placement method for constructed wetland systems.

WRAP UP:

We will send out a doodle request for scheduling another meeting in early June, 2014 to work on completing the RGF RS&G revision by the end of June.