

## Dower, Michael [PROCESS/MMI/BOUL]

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**From:** Dower, Michael [PROCESS/MMI/BOUL]  
**Sent:** Sunday, August 30, 2009 8:06 PM  
**To:** Craig Sheard (sheardc@comcast.net); Lynn Hargrove (lynndh53@yahoo.com); Mark McGee (mmcgee@flatironssolutions.com); Ken Huson (khuson@comcast.net); Tom Smith (tsmith@tristategt.org)  
**Subject:** Sewer Plant Updates

All,

- On Thursday 27.august I met with Wayne Ramey. He owns a company called Ramey environmental which provides all kinds of services for wastewater and drinking water treatment. He has about 12 employees, and several dozen customers like ourselves.
- His company website, if anybody would like to look, is [www.recinc.com](http://www.recinc.com)
- He actually employed Ben Golemon for a couple of years, before Ben started working directly for his grandpa Earl. He and Ben have a good relationship.
- Wayne paid a visit to our facility a couple of days prior (Tuesday) and spent about an hour with Ben reviewing the system at riverglen.
- I encouraged Wayne to bill us for both consult visits, but he seemed disinclined to bill us. He said he just wanted to do what he could to help us out, and encouraged both of us to call him again if we need him.
- Wayne was recommended to me as a resource by the gal at the state office who manages operator certification.
- My main goal in meeting with Wayne was to learn his suggestions for improving our facility, and more specifically for avoiding future violations from our DMR results.
- I asked about whether chlorine is still the best way to neutralize bacteria, even with our upcoming restriction on E-Coli coming in March. He said yes, chlorine is the way to go, and UV is really way too expensive for our system.
- I asked for details on dechlorination, he said the basic chemical is Sodium Thiosulfate. It comes in tablets. It is available in different strengths, and he said the most cost-effective is the flavor that is 81% active, because it dissolves much more slowly even though it is more costly. The flavor that is 35% active dissolves more quickly and is less cost-effective.
- He says the general rule of thumb is that water should remain in contact with the dechlor pellets for about 2 seconds, they work very quickly.
- He said that once we increase our chlorination rate, we will have to buy a device called an ampimetric titrater to measure chlorine levels. I did not quiz him much on this, and I'm not sure why our current technique for measuring chlorine in our effluent (part of our DMR's I think?) would be considered inadequate. We'll have to research this a little more, as he says the cost for this machine is about \$2000, a lot of \$ for a small diagnostic device.
- I asked him about new facility to replace settling pond systems. He estimated that for a fully mechanical facility (which I learned means a series of large charcoal filters inside tanks with recirc pumps and valves), the cost to build is about \$12 per gallon per day. For example, since our permit currently allows 29,000 gallons per day, cost to replace with a charcoal system would be about \$348K. This is only one estimate, obviously, and I've heard several others.
- He said that he has helped a couple of sewer plants like ours through the process of creating a district and imposing a mill levy to pay for such an upgrade. Also, forming a district enables one to apply for low-interest loans, grants etc, just like Julie has learned from the county folks up in fort Collins.
- He pointed out a few commercially available dechlorination devices. I will review these with Ken/Mark to help select the right size and shape for our facility. He also mentioned the need to install them in a small "doghouse" with light bulbs to avoid freezing. Let's discuss other methods for freeze protection, since this device will probably not be buried like current pipe (i.e. our pipe will now be open to air).

- He suggested we should start buying commercial bleach in larger vessels, as it is more cost effective than the 1-gallon Clorox jugs we use today. I will discuss this with Ben.
- He mentioned that the folks at Mead have recently retired their pond system in favor of a charcoal filter system (he calls it a mechanical system) and they may have several pieces of hardware that riverglen should consider buying from them. In particular, he mentioned aerators (we need a spare) and pond baffles. Regarding baffles, he thought that installing baffles would be a good way for us to reduce the risk of our water shortcutting ponds 1 or 2, and ensure more complete circulation within each pond. Again, I will discuss this with Ben.
- Now is the time to install our dechlorination system, as cells 2 and 3 will be empty for a few more weeks. I will meet with Ken this week to prepare and submit an engineering report to get permission for this.
- I asked about our flowmeter expert named Terry, who drives down from Evergreen to calibrate our meters. I explained that Terry charges us for drive time, 90 minutes each way at \$85 per hour. So it costs us minimum \$255 just to have this guy show up at our facility. He said yes, they use Terry also even though it's costly, because the State likes to see a third party calibration. It's not clear to me yet that the state would explicitly reject a self-administered calibration, as it does not specify that anywhere in our permit. I will investigate this further. He mentioned the name of somebody else locally whom they occasionally used to use, Kevin Herbert. I will see if I can track this guy down.
- He mentioned that our current chlorination rate is probably about 3 mg per liter, and that if we crank it up to 5 m g per liter we should be able to "kill just about everything" and easily meet our new limits on E-Coli.

Also this afternoon, Julie and I spent a couple hours visiting our four neighbors at RF. All four homes are now lived in, and we explained we will be billing them for 2009 at the same rate we are billing ourselves. They were relieved to finally interact with us, and to be able to confirm their service will continue. I don't expect we'll have any trouble getting any of them to pay their share. She and I will probably be visiting the banker in a couple weeks again.

That's all for now. Thanks for listening to me, guys.

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