

## WINNIPESAUKEE RIVER BASIN PROGRAM

### ADVISORY BOARD MEETING MINUTES

**June 27, 2019 – Belmont Corner Meeting House**

**Members Present:** The meeting was called to order by Wes Anderson (Laconia), assistant chair, at 10:05 am. Anthony Drouin (NHDES), Sharon McMillin (NHDES), Ron White (DAS), Jeanne Beaudin (Belmont), Glen Brown (Northfield), Steve Dolloff (Meredith), Scott Dunn (Gilford), Ray Korber (Bay District), and Brian Sullivan (Franklin) were present at that time.

**Minutes:** Glen moved, seconded by Jeanne, to approve the May 16, 2019, meeting minutes. The motion passed.

**WWTP Residuals and PFAS:** Guest, Anthony Drouin of the DES Residuals Management Group Sludge & Septage Coordinator attended to provide an educational presentation on perfluoroalkyl and polyfluoroalkyl substances a/k/a PFAS. The Residuals Management Group falls under the Wastewater Engineering Bureau. His group regulates the land application of biosolids. Sometimes, the final product is applied to farm fields. Sometimes, it is converted to compost to be utilized in landscaping and residential applications.

Brian asked how many classes of biosolids there are. Anthony explained that there are three – Class A, B, and C. His group regulates only the A and B Classes. The C class (industrial) is regulated by another DES group. Creating Class B biosolids typically uses a single step process to significantly reduce pathogens. Class A biosolids uses a two-step process to further reduce pathogens. Class B biosolids are managed under a site permit. Residual management companies must file site permits through DES under the State's Env-Wq 800 rules. Site permits require them to work with the towns where the biosolids will be applied and to notify abutters. There are also reporting requirements. The application of Class A biosolids does not require a site permit. These are typically composts and include WWTP composts. WWTP composts can be used on farm fields; Claremont and Woodsville WWTP composts are used on farm fields. They are generally of a consistency that is not used for most landscaping applications. They could be applied to residential lands if best management practices are utilized under DES regulations. There are also federal best management practices under 40 CFR Part 503 that must be followed. For a WWTP sludge or biosolids to be land-applied as a fertilizer or fertilizer conditioner, a sludge quality certificate must be obtained. Samples of the material must be analyzed in a laboratory for 168 constituents including PFAS and must meet DES' certificate criteria. New Hampshire is considered a strict state for regulating biosolids and sludge application and some towns have ordinances which are stricter on quality criteria, application, and/or biosolids management. RSA 485-A:4 allows biosolids to be land applied, but lawsuits are occasionally filed by parties contesting the regulation and land application of biosolids. If a municipality adopts stricter ordinances or prohibits land application, any current land application operation is grandfathered (as is) so long as the site permit does not expire.

In 2016, PFAS became a concern due to PFAS found in the groundwater and drinking water around the Saint-Gobain facility in Merrimack. There have also been high concentrations of PFAS found at Pease and in Bennington, VT, Hoosick, NY, and various locations in Massachusetts. DES began screening biosolids and sludge for PFAS as due diligence shortly thereafter. The testing is expensive (for now) but the price will probably continue to drop as more labs become accredited to perform the specialized testing. DES has determined that there are low levels of PFAS found in biosolids.

PFAS are a group of volatile organic compounds used as surfactants in the manufacturing of products like Teflon™. They are found in essentially any product that is meant to be lipophobic (grease proof) or hydrophobic (waterproof). They were invented in the 1940s, and many companies have been producing and using them ever since. They are so widely used that they have become ubiquitous in our environment. They are found in lower concentrations in our blood than they were 20 to 30 years ago. As they have begun to be more regulated and

voluntarily removed from the marketplace, they should continue to decrease in our environment and our bodies but they are considered “forever chemicals” because of their persistent nature. They contain carbon-fluoride bonds on long carbon chains and these carbon-fluoride bonds are some of the strongest chemical bonds. They are very difficult to break down in the environment or in the human body. The compounds are classified by the length of their carbon chains. A C8 compound (PFOA) has an 8-atom long carbon chain. The longer the carbon chain compounds have been linked with more health effects in humans at high concentrations. PFOA and PFOS both have these longer carbon chains.

The DES Drinking Water Bureau is tasked with setting Maximum Contamination Limits (MCLs) for drinking water. DES’ goal in establishing MCLs is to protect human health and the environment. It will be proposing stricter MCLs than EPA’s suggested guideline of 70 parts per trillion (ppt) for PFOA and PFOS in early July. It will also propose MCLs for PFHxS and PFNA. Additional compounds may be included eventually. The proposed MCLs will all be in the teens. The drinking water MCLs will also apply to groundwater once adopted as Ambient Groundwater Quality Standards (AGQS). They also will eventually affect surface water quality standards. There is a January 2020 deadline for DES to propose a surface water quality standard for the legislature’s consideration. There is an ongoing discussion about how this will affect WWTPs and the regulation of their NPES permit discharge for PFAS.

Scott Dunn asked what the health effects were for PFAS. Anthony explained that he has heard nothing about acute or direct effects outside of the industrial setting. Kidney and testicular cancer are associated with chronic exposures to PFAS. PFAS are also considered endocrine disruptors meaning that they can affect the human body in the same way as hormones. They may cause thyroid or cholesterol issues. The higher concentrations are a concern in an industrial setting especially where pregnant workers could potentially be exposed. Fact sheets about the health effects were distributed. Sharon agreed to email the information to the members. Anthony offered to connect members seeking additional information about health effects with NH Health and Human Services staff.

DES conducted some sampling in 2017 as part of an investigative study and determined that there is PFAS in both WWTP influent and WWTP effluent; and that the concentrations in the influent were generally lower than that found in the effluent. DES is attempting to understand how PFAS compounds break down or their precursors re-combine. Sampling will be ongoing in order to help understand the process. It will be extensive and will include WWTPs around the state. Biosolids and sludge are looked at in parts per billion. Wastewater is looked at in parts per trillion. DES has seen concentrations as high as 846 parts per billion in biosolids and sludge; although, the higher numbers have typically been associated with the smaller, unregulated PFAS. The regulated PFAS have generally been in the 10 to 30 parts per billion range. The only regulatory number that DES has to work with right now is 500 parts per billion for both PFOA and PFOS, but that is for direct contact. A high concentration such as this would only be a concern for workers who are directly handling biosolids and sludge.

Sharon asked if a solids test method was being developed since there is not a currently accepted methodology for non-liquid samples. Anthony explained that Maine, New Hampshire, and Vermont were working with USGS to determine the effects of PSAS on soils where biosolids and sludge have been applied. There is also an interest in the effect of PFAS on Superfund site soils as Superfund sites do not have a leaching limit to work with either. Leachate testing is being conducted as part of this study. It may take a year or so for this study to be completed. Right now, DES requires testing for the four regulated PFAS and five additional PFAS for the Class C certificate program. However, because there is no approved leachate test method for solids such as biosolids, sludge, or soil, DES is using the water testing method (with isotope dilution) and pulling aliquot samples (liquid) off of the parent (source) samples. EPA plans to have a leachate test method approved within a year or so. Once EPA approves one, it will be incorporated into the NPDES permitting process for WWTPs.

PFAS have been in our biosolids and sludge for a very long time. They are in beauty care products and in our clothes. They are in our cookware. They are everywhere. According to a recent FDA study, there is PFAS in both the meat packaging and birthday cake one might buy at the local grocery store. Some manufacturers are beginning to use newer PFAS such as GenX and ADONA instead although many, Saint-Gobain included, are still using the more traditional PFAS. The newer PFAS are known to have the same health effects. As of yet, PFAS (as products) are unregulated. Carpet cleaner, for instance, is pure PFAS. WWTPs are not the issue. There is a lot of education to do in this regard because WWTPs were not designed to process PFAS. Further, ten years ago PFAS were coming up as “non-detect,” because we did not have the capability to see them (analytically) at lower concentrations than what had been seen in the past. This has made correlating concentrations to health effects possible. PFAS is an emerging contaminant and new research will be coming out.

Fifty-three people attended PFAS training at the DES training facility in Franklin yesterday to learn how to perform PFAS sampling. The State’s regulations base sampling requirements on the frequency of dry volume output which will be taken into consideration in the future. For now, less sampling may be required. He may collect some of his own samples for a seasonal understanding of what is going on. Over 100K tons of wet biosolids and sludge are produced in New Hampshire annually not including lagoons that require remediation. The Residuals Management Group has always done its best to protect the environment and human health and it will be no different with this emerging contaminant. He is proud to be part of this team and to be helping the State and the public reach a clearer understanding of PFAS and how they need to be regulated. Through land application and incineration, New Hampshire is able to manage its biosolids and sludge. If this were to change, New Hampshire communities would need to find a home for their biosolids and sludge which could become costly. Landfills are beginning to wonder if they should take it because they increase the PFAS in their leachate.

Anthony asked the member communities to consider looking at source pollution prevention and pretreatment as a means by which to reduce PFAS in their wastewater. With regard to pretreatment, for example, he asked them to consider developing a clearer understanding of the industries in their towns and the compounds with which they are working and the types of waste (wastewater especially) that they are discharging. Cynthia Nelson at DES is available to help out with source pollution efforts in the member communities. She can help member communities educate the public about what they are buying, how they are using it, how they are disposing of it, and the effect it could be having on their WWTP and the environment. Cleaning products contain PFAS. For that reason, DES is recommending for home owners with private drinking water supply wells to test their drinking water. The test cost approximately \$300. There is information on one of the fact sheets about the test. Home owners should also consider arsenic and nitrogen testing.

A septage waste facility in New Hampshire recently contaminated some nearby residential properties with PFAS. The facility, now closed, formerly took in septage waste, processed it, converted it to compost, stockpiled it, and land-applied it. Elevated concentrations of PFAS have been found in the drinking water supply wells on these nearby residential properties and the owner is now remediating all nine properties. It was a tough situation because suddenly there was an emerging contaminant and a new way to look at it. That said, during the investigation, it came to light that some of the State’s regulations may have been violated. The neighbors have been very cooperative. DES is beginning to look at other septage waste facilities and land application sites more closely now especially those converting biosolids or sludge to compost because of the compost’s potential for residential land use.

Towns will want to continue to recycle biosolids and sludge because it is more sustainable and economical to do so. It costs approximately \$60/ton to do so. Otherwise, it may cost upwards of \$140/ton. DES has been collecting and analyzing samples. In 2020, towns will be expected to take over this responsibility and the associated costs. If town personnel plan to collect samples, they should consider going through training because there are a lot of ways in which to cross-contaminate samples with PFAS. For example, wearing lotions or other personal care products may increase the concentrations of PFAS in samples when they are analyzed. Personal

protective equipment (i.e. gloves) and sampling equipment (i.e. bailers and rope) must also be chosen with care. New Hampshire has joined a growing number of states going after the manufacturers and distributors of PFAS which include Dupont, 3M, and Chemour. There is a documentary on Netflix entitled “The Devil That You Know,” about the C8 study in West Virginia. It investigates the health effects of PFAS on workers at a Dupont plant including some birth defects.

Wes asked about operations and capital expenses and any types of modifications that might need to be made at the WRBP WTP. Anthony explained that there is no technology (currently) to efficiently remove PFAS from the wastewater. Anthony explained that while granulated activated carbon might work, that it would not be feasible to use that type of technology in a WWTP. Wes asked from an operations perspective, if WRBP should be amending its budget to accommodate additional expenses relating to biosolids and sludge disposal. Anthony said that he could foresee a sludge (disposal) war with towns battling over landfill space and hoped that it would not come to that. Landfills are worried about adding PFAS in their leachate. They are also limited with regard to the amount of sludge that they can take and still maintain stability to prevent sludge slides.

Please do not hesitate to call Anthony with any questions about biosolids and sludge (and PFAS) in the future.

**Monthly Summary Report:** Sharon provided the following updates. They were based on the *Monthly Summary Report* for May 2019.

- Flow Metering Services Study – There are no updates.
- Asset Management/Collection System Evaluations Initiative – There are no updates.
- WRBP Infrastructure Ownership/Responsibilities – There are no updates.
- Governance Work Plan – See Authority Workgroup Update section below.
- Rate Assessment Formula – See the Rate Assessment Workgroup Update section below.
- Replacement Fund (Reserve Account) Legislation – The Replacement Fund is being used by Laconia and Gilford to fund the force main emergency response and repairs at Pendleton Beach in Laconia currently estimated at \$500K. Approximately 420 hours of overtime was accrued.
- Commercial Discharge Permit (CDP) – There are no updates.
- WRBP Rules Update – There are no updates.

**Force Main Emergency Response and Repair Update:** WRBP staff set up bypass pumping with Busby’s assistance. The excavation to the force main was approximately 17 feet below the ground surface. The total length of the pipe (over elevation changes) is approximately 1300 feet and approximately 800 feet will be cured-in-place lined. The CCTV work will take place next week and the final repairs are expected to be made in late July. Three different haulers assisted with the bypass pumping during the emergency response. The WRBP staff was impressed with Busby’s work and everybody else’s work. Part of a private road was removed and the abutters have been very patient with the inconvenience. The total cost (including small contingencies) so far is \$552K. Approximately \$16,500 came out of O&M for the initial repairs and hauling. Lining technology has advanced significantly in recent years. The repair that will be taking place would not have been possible in the past.

Scott asked how the cost would be divided. Sharon explained that if the cost was based on proportional use, that it would be divided up between Gilford and Laconia at 90% and 10%. Wes asked if anyone wanted to change the legislation because the new legislative session would be starting up soon – for instance, funds were reimbursed over a 10-year period of time and that could be changed. Steve noted that the system benefits the entire region. He asked if there was any reason a user further away should pay more than users nearby. Wes suggested raising these questions for further discussion at a future meeting.

**Rate Assessment Workgroup Update:** Wes announced that he is planning to ask W-P to revise its Task 2 submission. He will sort this out next week with them.

**Authority Workgroup Update:** Wes announced that some of the bureaucratic pushback has been resolved with the various agencies and that signatures should be collected by the next meeting. Ray explained that it was sometimes difficult to determine who the responsible party was in each department.

**Other Business:** The meeting was adjourned at 11:15 am. The next meeting will be held at the Meeting House in Belmont on Thursday, July 18, 2019 at 10:00 am. The minutes were prepared by Pro-Temp Staffing.