

Upper Wakulla River and Wakulla Springs Basin Management Action Plan

Onsite Sewage Treatment and Disposal Systems (OSTDS) Remediation Plan Meeting Summary

Tuesday, October 11, 2016

2:00 PM

Wakulla Community Center

8000 Old Woodville Road, Tallahassee, Florida

Attendees

Advisory Committee Members

Curtis Baynes, Property Owner

John Buss, City of Tallahassee

Katherine Davis, Florida Department of Health

Stan Derzypolski, Other Interests

Bob Deyle, Environmental Interest

Roxanne Groover, Other Interests

John Hallas, Private Utilities

Theresa Heiker, Leon County

Melissa Corbett, Wakulla County

Others

Kristina Bridger, Leon County

Kevin Coyne, DEP

Brett Cyphers, NFWFMD

Eric Etters, City of Tallahassee

Doug Fitton, Public

Marcy Frick, Tetra Tech

Xueqing Gao, Florida Department of Health

Pamela Hall

Kenny Hayman, DEP

Theresa Heiker, Leon County

Bob Henderson, WAS

Stephen Hodges, City of Tallahassee

Moira Homann, DEP

Cal Jamison

John Kraynak, Leon County

John Labie, WRC

Sondra Lee, City of Tallahassee

Debbie Lightsey

Roy Lima, Florida Forestry Service

Sean McGlynn, WSA FOWS

Cheryl Minskey, DEP

Steve Peene, ATM

Debby Preble, Dewberry/Preble-Rish

Eb Roerder, FDOH

Stephen Sider, ETM

Mike Sundin, Florida Onsite Waste
Association

Elke Ursin, FDOH

Rich Wieckowicz

Nick Wooten, NFWFMD

Heather York, Wildwood Consulting

Welcome and Introductions

Kevin Coyne welcomed attendees to the third meeting of the OSTDS advisory committee. He thanked Wakulla County for the use of the meeting space. Attendees introduced themselves. He stated that the focus of the meeting will be to look at the nitrogen contributions to the Upper Wakulla River and Wakulla Springs and specifically at the contribution from OSTDS. He stated that the meeting format will be different from previous meetings because the Florida Department

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of Environmental Protection (DEP) wants to engage the committee members specifically. He stated that attendees could offer public comments at different points during the meeting and asked attendees to be brief with their remarks. He welcomed feedback from the advisory committee throughout the meeting. Kevin stated that comment cards are available. Attendees introduced themselves.

Moira Homann thanked attendees for coming to the meeting. She provided an overview of the agenda. She reminded committee members of the Sunshine Law requirements.

Recap Items

Moira provided an overview of follow up items from the last meeting. She stated that research studies and information as well as nitrate trends through July 2016 have been posted to the public website. She stated that the Priority Focus Area (PFA) maps and text have been revised and will be posted for comments by the committee members.

New Items/Discussion

Moira stated that \$50 million was appropriated for springs restoration projects for fiscal year 2016/2017. She stated that each water management district identifies potential projects for funding and DEP evaluates the projects based on a set of standard criteria. She stated that the Division of Water Restoration Assistance link in the presentation is a live link to additional information. She stated that the division can be contacted directly if stakeholders have specific questions. She stated that there is money available and the group needs to focus on what types of projects should be presented to Legislature.

Moira displayed the website for the springs project story map that includes project information and funding information, and noted that she will send the link to the site after the meeting. Stan Derzypolski asked if the funding is only for sanitary sewer connections. Kevin stated that the funding can be used for many different types of projects. He stated that DEP is trying to make the websites more user friendly.

Northwest Florida Water Management District (NFWMD) Springs Projects

Nick Wooten with the NFWMD stated that the different types of projects eligible for funding including the following:

1. Septic tank to central sewer projects.
2. Agricultural best management practice (BMP) cost-share.
3. Land acquisition and protection.
4. Springs restoration and protection.

The NFWMD has been implementing these types of projects for four years and the latest round of projects have been identified for approximately \$15.3 million. The projects have been approved by DEP. Nick stated that he is available for questions any time and is willing to look at potential projects at any time.

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Nick stated that the Wakulla Springs basin management action plan (BMAP) is focused on loads from septic tanks so that is the focus of the projects. The NFWFMD also considers water quality benefits, water conservation, flow and reuse projects. He stated that the \$50 million in springs is divided among four water management districts since the South Florida Water Management District does not have any first magnitude springs.

Nick discussed the springs funding process. He stated that the NFWFMD tries to align the review process and schedule to match the legislative funding schedule. With each project, the NFWFMD must execute a contract with DEP and with the local sponsor. He stated that the ideal project timeframe is one to two years.

Stan asked what types of projects have been funded other than septic tank to sewer projects. Nick stated that the NFWFMD has done agricultural cost-share projects. Kevin stated that there are really no limitations to the types of projects that can be funded. Nick agreed and added that the NFWFMD has also purchased land for spring and recharge area protection. Stan stated that about 50 % of the problem in the Wakulla Springs BMAP area is septic tanks.

Curtis Baynes asked if Nick was aware of an urban service area for Woodville. Nick responded that the NFWFMD is looking at this along with the city and county. He stated that these things will need to be considered for budgets and planning.

Roxanne Groover asked if the PFA has been finalized. Nick responded that the PFA is delineated, so new construction will have to have a nitrogen reduction system for onsite systems. Kenny Hayman stated that he will double check the rule language. He believes that condition will kick in once the remediation plan is adopted, which is by July 1, 2018.

Bob Deyle stated that the springs story board site does not reflect the local sponsor. He believes this information will be useful. Kevin agreed and stated that he would check on that information.

Stan stated that the Woodside Heights neighborhood is set for septic to sewer connection. John Buss stated that the city will pay to have those within the PFA connected to sewer.

Kevin offered an opportunity for public comments.

Debbie Lightsey stated that she is aware of the Woodville project and understands the NFWFMD will execute two contracts. She asked if there will be a third contract with the city since it will be a city sewer. Theresa Heiker stated that there will be an interlocal agreement between the city and county. The sewer will be built to city standards. The city will inspect and approve the sewer. She stated that the design will take about two years and will include the interlocal agreement. Construction will be scheduled once the design is finalized. Debbie asked when construction and funding will begin. Nick responded that tNFWFMD is working on the contracts now. He stated that the project will go to the NFWFMD board for approval on Thursday. The county has secured match for 50 % of the funding and the balance is from 2000 water quality funds. Theresa stated that she could send additional information to Debbie.

Elke Ursin with Florida Department of Health (FDOH) reminded Nick that the NFWFMD also is funding a project to investigate passive systems. Nick agreed that there is a pilot program with

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Wakulla and Leon Counties to investigate different areas and conduct effectiveness monitoring for advanced systems. DEP and FDOH also are partners. This project was funded for \$1.5 million.

Elke asked if subdivisions can apply for funding. Nick stated that he has not executed a contract with a homeowners association or non-government entity. He was not aware of any prohibitions if conditions are met. Kevin stated that there is a liability with these types of contracts and funding. The entity must own and maintain the system. Kenny added that it also can be difficult for these entities to meet match requirements. Nick added that the NFWFMD has contracted with individuals for agricultural cost-share projects. Sean McGlynn stated that Killearn Estates secured a Section 319 grant. He then asked if the presentation will be posted to the public website. Moira stated that it will be posted.

John Buss stated that the project will need to be revisited in a few years because credit will be assessed when people connect. The county has secured commitments from 50% of homeowners in Woodside. The city also is working on commitments since the homeowner will be responsible for the monthly fee.

Stan stated that he would like to see some funding for education to change public perception. Moira stated that education is a component of the remediation plan and discussions on education will occur at the next meeting.

Curtis stated that when the committee first met there was discussion about Wakulla County expanding their wastewater treatment plant and upgrading to advanced wastewater treatment (AWT). Nick stated that the plant will double in capacity and the whole plant will be upgraded to AWT.

OSTDS Remediation Plan Components

Moira reminded attendees that the OSTDS remediation plan includes three main components: public education strategy, projects, and scientific information on OSTDS effects. She stated that public education and scientific information will be discussed at the next meeting. She requested feedback on projects for the discussion today.

Moira displayed a slide for OSTDS-related projects. She stated that DEP is still fine tuning the calculation approach for reductions. She stated that Dr. Gao and Roxanne will discuss the options in their presentations.

Moira asked the committee to think about project timelines and restraints. John Buss stated that the timeframe for adopting an ordinance would be between 90 days and six months. Kevin stated that he understands things take time and there will be some limitations. Curtis stated that they first need to gather consensus on the county commission. He does not believe there is political will at this time. He asked what the state would do if there is an absence of local effort at this time. John Buss agreed with Curtis that a top down approach by the state may be most effective. Melissa Corbett stated that if there is political will, then the comprehensive plan will change first and then the land development code. This may take about 12 months. John Buss stated that the city's comprehensive plan was updated in either 2009 or 2011, but the land development

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regulations were not developed to complement it. Roxanne noted that she understands political will, but it is time for public and personal responsibility. She stated that the public voted for springs funding and there needs to be a joint effort. Stan stated that the committee needs to know the cost and efficiency of different alternatives. He added that there also is a need for public education. He stated that at some point the septic tanks will fail and will cost homeowners. He suggested a need for septic inspection fees so that everyone does their part. Theresa stated that there are opportunities now to make incremental improvements.

Debbie Lightsey stated that everything must be done incrementally and that the commitment is there. She stated that we need to start and suggested starting with failed systems in the PFA and then go after new systems. She stated that maybe implementation for others should be delayed to allow for education. Debbie stated that retrofits might be next as a phased approach. She stated that the public could help with reductions, but a timeline is needed to get it done. Moira stated that this will need to fit into the 5, 10 and 15-year milestones.

Pam Hall stated that the problem is cost. She stated that for new homes with city sewer there is only a monthly bill. For a person that is on septic there is a cost all at once. She hoped the city and county could help with the connections and suggested a cost-share program. Kenny Hayman stated that the storage tank program has such a program that could be reviewed. Stan stated that a higher treatment septic tank could cost \$11 thousand and then there is the cost to run a pump. He stated that this is not cheap and sewer may be cheaper in this case.

Moira displayed a slide for sewer expansion projects and stated that the attendees need to begin considering time constraints. Bob Deyle stated that there is not a single answer but multiple phases to consider. He added that retrofits are different than new lines. He suggested coming up with categories and timeframes for each. He stated that we need a list of projects with estimated time frames for completion and nitrogen reductions. Kevin agreed. Bob Deyle stated that we need to develop this roadmap and then identify funding. John Buss stated that Pam and others did a great job securing \$2.5 million to look for projects and then develop a facilities plan. The plan includes a financial plan and a timeframe. He stated that it probably takes two years to retrofit a neighborhood, but there is a limit to how many can be done in a year. Bob Deyle stated that the city of Tallahassee and Leon County are good to go. He asked about Wakulla County. Melissa stated that she is not excited about the NFWFMD pilot program. Bob asked if a facility plan would be eligible for springs funding. Kevin stated that he would explore the possibility for funding.

Curtis stated that the city did some work on water and sewer plans a few years ago. One of the plans was for Woodville and Lake Munson. The plan included phasing out septic systems and sewerage the wastewater (about one million gallons per day) to a wastewater treatment facility. He believes we should be able to calculate that reduction.

John Buss stated that the first step was figuring out what to do and the second step was the facility plan. Debbie stated that things are out of sequence. She believes the Lake Munson connections should be done first instead of Woodville. She believes we need to know what to do and how to do it before grants are pursued. Bob Deyle stated that there are various resource

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streams and will. He stated that we should try to use money now as best we can until a plan is in place.

Stan recalled asking Moira about grant funding and project selection. He understands now that the process takes a couple of years and we need to begin to move forward. Moira agreed. She suggested getting on track with projects and funding, because we cannot go back.

Kevin stated that the nitrogen source reduction strategy will be discussed during the next meeting due to time constraints today. He then introduced Dr. Xuexing Gao with FDOH.

Advanced OSTDS in Florida

Dr. Gao thanked Dr. Eberhard Roeder and Elke Ursin for the use of some of the slides in the presentation. He stated that he will be presenting many technologies and summarized them in a handout. He stated that conventional septic systems reduce nitrogen by 30 %. Lined drainfields and existing advanced technologies reduce nitrogen by 50 to 70 %, and nitrogen reducing systems can reduce nitrogen by up to 93 %. Dr. Gao gave an overview of nitrogen removal. He stated that in conventional OSTDS there are two components including the septic tank and drainfield. He stated that those that are installed properly have 24 inches below the bottom of the drainfield and top of the water table.

Dr. Gao stated that aerobic treatment units (ATU) add an aeration tank when there is not 24 inches of soil available. These have achieved National Science Foundation (NSF) 40 certification. They achieve about 50 % nitrogen reduction. He then displayed a schematic of a NSF245 Certified ATU which recycles effluent from the aeration tank back to the septic tank. He stated that the NSF245 units meet NSF40 certification plus they reduce nitrogen by 50 %. He suggested this might be a good option in some areas.

Dr. Gao displayed a schematic for additional nitrogen removal processes using performance based treatment systems (PBTS). These are specifically designed to remove nitrogen and are approved for use in Florida. In addition, passive nitrogen reduction systems are being tested in Florida. Dr. Gao stated that these systems reduce nitrogen using reactive media for denitrification and use a single pump, if necessary. There are in tank passive systems and in ground passive systems. These systems do not have an aeration tank. He stated that these systems can remove over 90 % of nitrogen.

John Buss asked about media longevity. Dr. Gao stated that there is not enough data at this time but it could be as long as 100 years. Roxanne stated that these systems may be new to Florida, but they are not new to the wastewater industry. She stated that there is long term data showing the media can last 25 to 30 years. Dr. Gao stated that FDOH is continuing to collect data. Curtis asked how much these systems cost. Dr. Gao stated these systems can cost anywhere from \$12-30 thousand but that the cost should come down as more systems are installed. Bob Deyle asked if the passive systems are cheaper to pump out. Dr. Gao stated that they are but they also have failures. Dr. Gao stated that there are also combined passive systems.

Dr. Gao stated that there are three permitting categories including the following:

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1. ATU
2. PBTS
3. Innovative systems which are a subcategory of PBTS.

Dr. Gao displayed the definition of ATU which is a sewage treatment unit that introduces air into sewage to provide biochemical stabilization within a treatment receptacle. He stated that those with NSF40 and NSF245 certification are probably the ones local governments want to look into.

Dr. Gao displayed the definition of PBTS which is a specialized OSTDS that achieves a specific and measurable established performance standard for multiple parameters. These must be designed by a professional engineer. A special category of PBTS is the innovative systems. Dr. Gao stated that these are being tested and must undergo monitoring. He stated that there are currently about 10 systems being tested.

Dr. Gao distributed a handout of available technologies. He stated that there are currently about 2.7 million OSTDS installed in Florida and 90 % of those are traditional systems. Dr. Gao and Elke Ursin at FDOH are available for additional information and questions.

Alternative Technologies for OSTDS

Roxanne with Florida Onsite Wastewater Association stated that there is lots of technology available. She included live links in her presentation so attendees can look at the data. She stated that the existing traditional septic tanks are doing the job they were designed to do. These systems reduce biological oxygen demand and total suspended solids and protect public health. She added that these systems were not designed to reduce nitrogen.

Roxanne stated that there are many proprietary systems available now but the desire is to have non-proprietary systems. She stated that she and Eb Roeder sit on the committee for NSF245 reviews. She stated that the committee is made up of industry, consumers, and regulators. Systems that have NSF40 certification are accepted in Florida. The NSF245 certified systems also are accepted and have an additional level of treatment.

The NSF certification requires installation of the system, testing for six months, data analysis, and issuance of a report. Roxanne stated that NSF is particular about the parameters tested for the influent and effluent. Standards must be met to receive the certification. Roxanne encouraged attendees to look at the data and the six month averages.

Roxanne stated that another verification exists and is referred to as environmental technology verification (ETV). She displayed a table comparing the NSF certification with the ETV. The testing standards for ETV are more relaxed than the stringent testing standards for NSF certification. She also displayed a list of approved units. Some of the units are allowed to be used as PBTS now and several others are going through innovative testing at this time.

Roxanne stated that there are different types of ATUs including suspended and fixed film/submerged media ATUs. Recirculation can be added to the suspended systems to increase nitrogen reduction. She stated that the fixed film/submerged media ATUs may be a good option when use is really high or really low. Roxanne also mentioned the jet system which is a standard

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ATU with submerged media. This system achieves nitrogen and phosphorus removal and is currently in innovative testing. She added that this system also has a small footprint.

Roxanne stated that the media units may use natural or artificial media. She stated that there is lots of data for these units and many proprietary units available now. She also stated that bio-microbics has some approved systems and one has a reuse option that meets NSF350 certification.

Roxanne displayed the Hoot Basic Nitrogen Reduction (BNR) system which is already in use in the Florida Keys, and the Hoot 450 Advanced Nitrogen Reduction (ANR) system with really low energy costs.

Roxanne stated that stakeholders need to consider dispersal options and cradle to grave for costs. She offered to take interested parties on a fieldtrip of the Florida Onsite Wastewater Association (FOWA) training center near Orlando and to invite manufacturers to future meetings to discuss some of the available products.

Kevin stated that Moira will post the longer version of Roxanne's presentation with the meeting materials.

Kevin offered an opportunity for public comments.

Bob Deyle asked if PBTS is a regulatory category. Roxanne responded that it is. She stated that these systems went through the Big Pine Key study or they go through the innovative process. She stated that five or six systems can be used today. She added that those in the Keys study have been tested for nitrogen and phosphorus in the effluent. Bob Deyle asked what the criteria might be if he wanted to write an ordinance. Roxanne stated that she would like to see a treatment standard identified, so then FDOH could supply a list of systems that meet that criteria. Eb Roeder stated that Wakulla County is an example of a municipality using a treatment standard approach which was PBTS. The permitting mechanism has an engineered design. Then the permitting goes through a local county Department of Health. He suggested thinking about the level of data that he would want behind the standard such as NSF245. Bob Deyle was glad to hear that the local government would not have to deal with this issue but would just need an ordinance including a treatment standard.

Katherine Davis stated that permitting goes through the local Department of Health.

John Buss stated that these were great presentations today and just what we needed. He agreed with Bob Deyle that the committee can refer to these studies. It seems state regulatory and local regulatory items need to be put on a calendar. He stated that the committee could then deal with the funding. He presented information during the last meeting showing that with \$12 a month enough money could be raised to retrofit septic tanks if the money was bonded. He stated that there are many ways to slice the pie and we can reach our goal.

Bob Deyle reiterated that the remediation plan does not need to say which technologies to use but to identify the treatment standard. Kevin agreed with this statement.

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Stan stated that at one time there were septic tanks that handled toilet water only. Sink water and wash water were diverted to a sand box for discharge. He asked if there was a study of such a system since the septic tank could be much smaller.

Elke responded that urine separating toilets do exist and urine is the greatest concern. Dr. Gao says wash water is the highest source of loading. Roxanne stated that you can separate these sources but it is not cheaper. Curtis added that new construction is not terribly problematic. The real issue is with retrofits and we really need to know that cost. Kevin stated that we will get there and it will be good to discuss costs.

Pam had two requests for future meetings:

1. Discuss cluster systems.
2. Discuss inspection and maintenance needs.

Roxanne stated that she has a presentation on decentralized wastewater that may be helpful.

Stan stated that he went through the FDOH report and there is good information on advanced systems. He stated that we need to look at total loading and the cost/benefit of different systems. He thought the in tank passive system is the best option because it has the fewest moving parts and would not be maintenance intensive. He stated that this one is the least expensive too at around \$10 thousand. He stated that we need to decide on the level of treatment.

Kevin stated that we will be discussing this at the next meeting. He offered an opportunity for public comment and announcements.

Next Meeting Date

The next meeting has been scheduled for Tuesday, December 6, 2016 at 2:00 pm.

Adjourn

The meeting adjourned at 5:04 pm.

Action Items

- Moira will send the revised PFA map and text to committee members for feedback.
- Moira will send the link to the sprigs project story map.
- Kenny will check the rule language and requirements for new construction in a PFA.
- Kevin will check on the springs story map to see if the local sponsor can be included.
- Moira will post all presentations to the public website, including Roxanne's longer presentation.
- Kevin will determine if a facility plan is eligible for springs funding.
- Moira will follow up with Leon County to host the next meeting.