

## Research Review and Advisory Committee for the Bureau of Onsite Sewage Programs

Approved Minutes of the Meeting held at the Florida Onsite Wastewater Training Center, Lake Alfred, FL

May 27, 2009 and May 28, 2009

Approved by RRAC July 1, 2009

### May 27, 2009

#### In attendance May 27, 2009:

- **Committee Membership and Alternates:** David Carter (chairman, member, Home Building Industry); Anthony Gaudio (vice-chairman, member, Septic Tank Industry); Eanix Poole (alternate, Consumer); Patti Sanzone (member, Environmental Interest Group); Clay Tappan (member, Professional Engineer); and Pam Tucker (member, Real Estate Profession)
  - **Not represented:** DOH-Environmental Health; Local Government; Restaurant Industry; and State University System
  - **Visitors:** Dominique Buhot (Green's Environmental Services); Scott Carmody (Carmody); Blaine Carter (Carter Engineering); Stephen Clancy (GlobalMind); Chris Ferraro (FDEP – Central District); Roxanne Groover (FOWA) Pamela Hall (EarthSteps); Kathryn Lowe (Colorado School of Mines); Greg Mayfield (SWS); Linda Nelson (EarthSteps); Tresa Woodward (Representative Bryan Nelson's Office)
  - **Department of Health (DOH), Bureau of Onsite Sewage Programs:** Paul Booher; Kara Loewe; Eberhard Roeder; and Elke Ursin
1. **Introductions:** Six out of ten groups were present, representing a quorum. Chairman Carter called the meeting to order at 1:10 p.m. Introductions were made and some housekeeping issues were discussed.
  2. **Review of Previous Meeting Minutes:** Minutes were reviewed. **Motion by Eanix Poole and seconded by Patti Sanzone to approve the minutes as submitted. All were in favor with none opposed and the motion passed unanimously.**
  3. **Election of Chair / Vice Chair:** David Carter is current chair, and there is no current vice-chair. About 5-years ago Patti Sanzone was vice-chair, but she has been off and then back on the committee since in that position. David Carter asked whether anyone has expressed an interest in being in these positions, and Elke Ursin indicated that Bill Melton had stated that he would be willing to serve as vice-chair. David Carter stated that his term as member for the Home Building Industry is up in January of 2010. He stated that he is willing to continue. Anthony Gaudio stated that he had offered to be chair several meetings ago, but the election has been moved forward so many times since then. Anthony Gaudio is still willing to do this, but if David Carter would like to run for chair he would be willing to run for vice-chair. **Motion by Pam Tucker and seconded by Clay Tappan to keep David Carter as the chairperson of the RRAC. All were in favor with none opposed and the motion passed unanimously.** David Carter, representing the Homebuilding Industry, was elected chair of the committee for the remainder of his term, which expires in January of 2010. **Motion by Eanix Poole and seconded by Patti Sanzone to appoint Anthony Gaudio as vice-chairman of the RRAC. All were in favor with none opposed and the motion passed unanimously.** There was a discussion about what to do about Bill Melton's interest and it was decided that since Anthony is here to have him as the nominee.

Anthony Gaudio, representing the Septic Tank Industry, was elected as vice chair of the committee.

- 4. Presentation on Inventory of Onsite Sewage Treatment and Disposal Systems in Florida Study:** Elke Ursin gave a brief introduction to the project. The purpose of the study is to provide a comprehensive inventory of the approximate 2.5 million onsite sewage systems in the state. The inventory will help us understand the impacts of these systems on the environment as well as help with improving maintenance and management of septic systems to protect public health and the environment. A draft report was submitted. Pamela Hall with EarthSteps and Stephen Clancy with GlobalMind provided a presentation on the objectives and status of the inventory project. The work is still ongoing with an anticipated completion date of June 30, 2009. Out of 9-million parcels in Florida, 6.5-million are improved. All the Florida Department of Environmental Protection (FDEP) wastewater treatment facilities were contacted, and about 80% of the total permitted treatment capacity has been accounted for. Approximately two million parcels were specifically identified as being sewer, that is a dot could be placed on a map stating these particular parcels are NOT on septic. After contacting local county health departments and collecting information from the Department of Health's Environmental Health Database, about 0.5-million parcels have been specifically identified as being on onsite sewage systems, that a dot could be placed on a map indicating these particular parcels ARE on septic. There are 4-million unknown parcels (6.5-million developed – 2-million sewer – 0.5-million septic = 4-million). Now, they are in the process of developing models for each of the 67 county health departments, to estimate the probability of whether any particular remaining unknown parcel is on septic or not. Several possibilities for areas of future study were presented to the RRAC. The RRAC was interested in knowing what will be done with the information after the project is over, and Kara Loewe stated that at this point there is no additional money targeted for this project. [NOTE: See the budget discussion below for additional information on this project.]

**5. Brief updates on other projects**

a) Ongoing projects

- **Town of Suwannee Study** – The Quality Assurance Project Plan (QAPP) was approved by all parties on May 18, 2009. The project is behind schedule due to the delay in getting the QAPP approved with FDEP. Sampling began on Tuesday May 26<sup>th</sup> and will continue weekly until mid-July. The timeline for the data analysis and report writing will be shortened to meet the October 1, 2009 contract end date.
- **Manatee Springs, Performance of Onsite Systems Phase II Karst Study** – The modifications to the systems have been completed and final approved by the County Health Department. Eberhard Roeder outlined what modifications were done on both of the systems. A background sampling event has been completed. An intensive 4-day performance sampling event will occur the first week of June. The project is to be completed in July.
- **Monroe County Performance Based Treatment System Performance Assessment** – Quality control of existing data is ongoing. The Phase III Sampling will use the same procedures from Phase II and the sampling protocol document is nearing completion with the incorporation of final clarifications. One sampling event for systems studied during this phase has been completed and a second is nearing completion.

- **319 Project on Performance and Management of Advanced Onsite Systems** – Work will begin in the very near future on the database of advanced systems. The Florida State University Survey Research Laboratory was selected to perform the user-group perceptions survey task, and they are currently in the process of developing the surveys. A candidate for a contract staff position has been selected and is in the process of being hired to start working on this project.
- 6. **Research Budget** – A discussion was had on the research program budget. The research trust fund as of April 30, 2009 has a cash balance of \$353,795. The committee voted to approve the following prioritized list of projects that will be completed as time and budget permits: Inventory Study; Maintenance of the Database, Town of Suwannee Study December-January Sampling Event, Columbia County River Front Survey, Wekiva Seasonal Variability Study, and the Alternative Drainfield Product Assessment. Department staffs were directed to research how much money will be required to conduct these projects effectively.
- 7. **Other Business** – None.
- 8. **Public Comment** - The public was allowed to comment throughout the meeting.
- 9. **Meeting Adjournment** – The meeting adjourned at 2:46 p.m.

## May 28, 2009

### In attendance May 28, 2009:

- **Committee Membership and Alternates:** David Carter (chairman, member, Home Building Industry); Kim Dove (member, DOH-Environmental Health); Anthony Gaudio (vice-chairman, member, Septic Tank Industry); Eanix Poole (alternate, Consumer); Patti Sanzone (member, Environmental Interest Group); John Schert (member, State University System); Clay Tappan (member, Professional Engineer); and Pam Tucker (member, Real Estate Profession)
- **Not represented:** Local Government and Restaurant Industry
- **Visitors:** Damann Anderson (Hazen and Sawyer); Rick Baird (Orange County Environmental Protection); Quentin Beitel (Markham Woods Association); Jonathan Blanchard (Hazen and Sawyer); Dominique Buhot (Green's Environmental Services); Blaine Carter (Carter Engineering); Scott Carmody (Carmody); Steve Danskine (Environmental Consulting & Technology); Josefin Edeback (Hazen and Sawyer); Doug Everson (PTI); Chris Ferraro (FDEP – Central District); Roxanne Groover (FOWA) Jack Hannahs (Markham Woods Association); John Higgins (Markham Woods Association); Mark Hooks (citizen); Justin Hubbard (Infiltrator); Ken Jones (Markham Woods Association); Kathryn Lowe (Colorado School of Mines); Dick Otis (Otis Environmental); Daniel Smith (AET); Charlie Stone (Marion County Commission); Tresa Woodward (Representative Bryan Nelson's Office)
- **Department of Health (DOH), Bureau of Onsite Sewage Programs:** Marcelo Blanco; Paul Booher; Kim Duffek; Bart Harriss; Kara Loewe; Eberhard Roeder; and Elke Ursin

1. **Introductions:** Eight out of ten groups were present, representing a quorum. Chairman Carter called the meeting to order at 10:08 a.m. Introductions were made and some housekeeping issues were discussed.
2. **Summary of Previous Days Meeting:** Elke Ursin provided a summary of some of the highlights that occurred at the meeting held the previous day (May 27, 2009).
3. **Nitrogen Reduction Strategies Study** – The objective of this meeting is to review the Project Team’s proposed onsite nitrogen reduction technology classifications, evaluation criteria, criteria weighting, and ranking methodology. Another objective of this meeting is to develop a consensus on the procedures which will be used to identify and prioritize the technology list for future testing. Several presentations were made by Damann Anderson, Dick Otis, and Daniel Smith about the study background, an overview of the project, a review of nitrogen chemistry, and how to classify different technologies. The major classifications for technologies were source separation (e.g. urine separating toilets), biological systems with many sub-categories (e.g. suspended growth and fixed growth systems), physical/chemical systems (e.g. chemical precipitation), and natural systems (e.g. conventional and fill septic systems). There was a discussion on the definition of “passive”. The current definition per the contract is: “a type of onsite sewage treatment and disposal system that excludes the use of aerator pumps and includes no more than one effluent dosing pump with mechanical and moving parts and uses a reactive media to assist in nitrogen removal”.

The committee was given stickers to perform a preliminary ranking of different onsite nitrogen reduction technology classification processes. There were five stickers for each member present to rank from 1 (highest ranking: most important) to 5 (lowest ranking: least important). Here are the results of this ranking:

<b>System</b>	<b>Sticker(s) Ranking</b>	<b>Average Ranking</b>
Autotrophic Denitrification	1	1
Soil Infiltration	1,2,2,3	2
Nitrification	2	2
Source Separation	2	2
External Carbon	2,3	2.5
Urine Recovery	1,2,1,5,4,3	2.67
Heterotrophic Denitrification	1,1,4,5	2.75
Vegetative Uptake	2,2,4,4	3
Denitrification (Alternative Electron Donors)	3	3
Two Stage (Segregated Biomass)	1,3,5	3
Sewage Carbon (Recycle)	1,3,5	3
External Chemical	3,4	3.5
Submerged	4	4
Suspended Growth	3,4,5,5	4.25
Anion Exchange (Nitrate)	5	5
Physical/Chemical	5	5

There was a discussion on what criteria are important to evaluate different systems. **Motion by Eanix Poole and seconded by Kim Dove to bring the weight for the Evaluation Criteria: 'Energy requirements' to match the Evaluation Criteria: 'Operation and maintenance cost'. All were in favor with none opposed and the motion passed unanimously.** After much discussion, the final prioritized list of criteria to be evaluated and their associated weights was as follows:

<b>Evaluation Criteria</b>	<b>Weight</b>
Effluent total nitrogen concentration	11
Performance reliability	10
Performance consistency	9
Construction costs	7.5
Operation and maintenance cost	7
Energy requirements	7
Construction complexity	5
Operation and maintenance	5
Land area requirements	4.5
BOD/TSS effluent concentration	3.5
Restoration of performance	3.5
System aesthetics	2
Stage of technology development	0.5

Results were presented on the preliminary evaluation of the University of South Florida's Lysimeter Station as well as the University of Florida's IFAS Gulf Coast Research and Education Center as possible locations for the test facilities. The Project Team recommended not using the Lysimeter Station because the cost to restore the site is more than the budget available. Instead, the Gulf Coast Center was a suitable location for both systems testing and groundwater monitoring. Conditions for denitrification are expected to be relatively good at this site. Having both components of the test facility conducted at one site also helps reduce some of the costs. **Motion by Anthony Gaudio and seconded by Eanix Poole to accept the recommendation to use the Gulf Coast Center as the only test facility location. All were in favor with none opposed and the motion passed unanimously.**

There was a discussion on the next steps for this project. The ranking criteria will be finalized based on the results of this workshop. The technologies will be scored and ranked based on the agreed upon criteria and weights. Draft reports will be finalized, after receipt of RRAC comments, and final reports will be distributed. The Project Team will meet to figure out what can be done by June 30<sup>th</sup>. A possible reorganization of the scope and budget may need to be done to meet the requirements in the approved 2009-2010 budget, which gave the Department spending authority for this project, did not add additional funds, and requires interim and final project reports to be

due during the fiscal year. After the Project Team discusses this, this will be brought back to the RRAC and may be a focus for the next RRAC meeting.

4. **Other Business** – None.
5. **Public Comment** – The public were allowed to comment throughout the meeting. Mark Hooks mentioned a possible grant proposal that he may be working on to have a collaborative effort to take over the nitrogen project over where the contractor ends.
6. **Next Meeting**: The next meeting will be scheduled for the end of June or the beginning of July. The meeting location has not been determined, but may be held either at the University of Florida's Gulf Coast Research and Education Center or via teleconference. The focus of the next meeting will be to review draft documents and discuss the process forward for the Nitrogen Reduction Strategies Study as well as discuss current and proposed research projects.
7. **Meeting Adjournment** – The meeting adjourned at 5:30 p.m.