



Florida Department of Health
Bureau of Onsite Sewage Programs
Research Review and Advisory Committee Meeting

DATE AND TIME: December 16, 2009 at 9 am

PLACE: via Conference Call: 1-888-808-6959
Conference Code: 1454070#

Or
Florida Department of Health Southwood Complex
4042 Bald Cypress Way; Room 240 P
Tallahassee, FL 32399

This meeting is open to the public

AGENDA: FINAL

1. Introductions and Housekeeping
2. Review Minutes of Meeting September 10, 2009
3. Department's Interim Report on Nitrogen Reduction Strategies Study: Review, Comment, and Next Steps
4. Nitrogen Reduction Strategies Study: Comment on Deliverables and Next Steps
5. Section 319 Study Update: Comment on Proposed Sampling Plan
6. Manatee Springs Study: Comment on Final Report
7. Other Business
8. Public Comment
9. Closing Comments, Next Meeting, and Adjournment

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

Approved Minutes of the Meeting held at the Southwood Office Complex, Tallahassee, FL

December 16, 2009

Approved by the RRAC March 23, 2010

In attendance:

- **Committee Membership and Alternates:**
 - **In person:** Anthony Gaudio (vice chairman, member, Septic Tank Industry); Bill Melton (member, Consumer); Jim Oskowis (member, Local Government)
 - **Via teleconference:** David Carter (chairman, member, Home Building Industry); Kim Dove (member, Division of Environmental Health); John Dryden (alternate, State University System); Eanix Poole (alternate, Consumer); Patti Sanzone (member, Environmental Interest Group); John Schert (member, State University System); Vince Seibold (alternate, Local Government); Clay Tappan (member, Professional Engineer); and Pam Tucker (member, Real Estate Profession)
 - **Not represented:** Restaurant Industry
 - **Visitors:**
 - In person: Bruce French (York)
 - Via teleconference: Damann Anderson (Hazen and Sawyer); Quentin (Bob) Beitel (Markham Woods Association); Fred Brummer (Orange County Commissioner); Josefin Edeback (Hazen and Sawyer); Keith Hetrick (Florida Home Builders Association); Bruce Higginbotham; Dick Otis (Otis Environmental); Daniel Smith (Applied Environmental Technologies)
 - **Department of Health (DOH), Bureau of Onsite Sewage Programs:**
 - Paul Booher; Kara Loewe; Debra Roberts; Eberhard Roeder; and Elke Ursin
1. **Introductions:** Nine out of ten groups were present, representing a quorum. Chairman Carter called the meeting to order at 9:07 a.m. Introductions were made and some housekeeping issues were discussed.
 2. **Review of Previous Meeting Minutes:** The committee recommended that the approval of the minutes from the September 10th meeting be postponed until the next RRAC meeting due to the delay in getting the minutes out to the committee members. This will be included on the agenda for the next meeting.
 3. **Department's Interim Report on Nitrogen Reduction Strategies Study: Review, Comment, and Next Steps** - David Carter introduced the report and stated that the report appears to be a summary of what has been done to date. The committee is to consider the report and make comments now prior to it going to the legislature. Eberhard Roeder asked for specific feedback on the following points:
 - Does the committee want recommendations in the report now or in final report that is due in March?
 - Does the committee want to add a discussion of technologies currently available in Florida in comparison to prioritization results?

- Add background on evidence requirements to become an “innovative system” in Florida, and innovative system permitting?

David Carter asked whether the ranking discussed during the prioritization workshop with Hazen and Sawyer would need to be changed based on the interim report and Eberhard Roeder stated that the original report would not need to be changed. RRAC developed the prioritization scheme and then the contract provider put the available information into the scheme to calculate the results. Damann Anderson stated that the ranking workshop was to look at available technologies and how to rank them for testing. The ranking report is not a report for the public to use to decide what technologies to use now, it's to help with the testing which, when completed, will hopefully provide information that the public can use. Anthony Gaudio stated that the ranking process was designed by the contractor. He noted at that meeting that he thought the process was flawed and the results appeared to be skewed. He indicated he did not want to participate in the vote because he did not agree with the weighting of the items, particularly the stage of technical development which he thought was one of the more important issues had the lowest weighting. Eanix Poole suggested rewording the report so that it is not so heavy on the rankings and not so detailed. Several people were in agreement that the report could be confusing with regards to the rankings. It could be misconstrued that the rankings are for which systems are the best systems rather than ranking for testing. The interim report will be revised so that this is clearer.

There was much discussion on the report and several suggestions were made on how to wordsmith the document. Eberhard Roeder edited the report live on the WebEx web conference.

There was a discussion on the process forward for how to get the report edited and approved by the RRAC, and the following motion was passed:

Anthony Gaudio made a motion, seconded by Bill Melton, for staff to take the comments made during the meeting, rewrite the Executive Summary and other parts of the Interim Report, email the revised document to the RRAC for review and comment, then Department staff will submit the report as per the appropriation. All were in favor with none opposed and the motion passed unanimously.

Jim Oskowis stated that the report needs to be stronger in the recommendations and conclusions to show that the project is on schedule and on budget. He stated that it is important to mention the nationwide focus to reduce nutrients in wastewater and the environment and to reiterate the purpose of the study. Keith Hetrick mentioned that the report should mention that this is one project that is looking at developing technologies to come up with solutions. The report will be updated to include the most recent status of the project. There was a discussion on the tanks located at the test facility and the repairs and testing that will be done to assure that the tanks are not taking in the surrounding groundwater. There was also a discussion on the importance of management and enforcement and how the county health departments may not currently have the capability to adequately manage these more complex systems within the current existing framework (not enough manpower or funding). Pam Tucker stated that the Wekiva seasonal variability study needs to be more prominent in the report. Patti Sanzone made several comments on the report and will submit written comments to the department after the meeting. Quentin Beitel stated that it is important to note that all of this stems from the Wekiva issue. There was a discussion on the recommendations and whether they should be included in this

interim report or wait until the final report. There was a general consensus from the RRAC that the recommendations should be delayed and considered for the final report due in May. RRAC directed staff to check with the DOH legal staff to see if recommendations are required in the interim report per the appropriation language. Eberhard Roeder stated that the contract amendment will include a task for the provider to draft the final report due in May and then RRAC and DOH can review prior to routing.

4. Nitrogen Reduction Strategies Study: Comment on Deliverables and Next Steps: An overview was given outlining what has happened since the last meeting. Numerous reports have been submitted and reviewed by RRAC and DOH:

- Passive nitrogen removal study phase II quality assurance project plan
- Classification, ranking, and prioritization of technologies
- Literature review of nitrogen reduction by soils and shallow groundwater
- Nitrogen reduction by soils and shallow groundwater quality assurance project plan
- Test Center initial design
- Literature review on nitrogen fate and transport modeling

The draft contract amendment, as recommended at July meeting, is currently being reviewed by provider. This amendment will update payment schedules, costs, and tasks associated with the project now that some of the finer details have been fleshed out. Eberhard Roeder provided a summary of the QAPP for Task C and there was some discussion on some of the details in this report. The 50% design documents and the literature review for Task C were also discussed. Pam Tucker stated that it is important to make sure that the draft interim report and the Task C QAPP are consistent.

5. Section 319 Study Update: Comment on Proposed Sampling Plan: For the database task, data has been gathered from the state database (from two sources: construction permits and operating permits), any county specific databases, and from Carmody. The data fields and database structure have been discussed and sketched. There was a discussion on the review of data from operating permits that has been gathered from the various sources and how there is limited overlap of the data. The Carmody system can contain records for systems that are also found in the state database, and for many systems in the state database there would be both a construction permit as well as an operating permit, so there is the potential for duplicate records. Much time has been spent trying to locate and eliminate duplicate records in this new database so that there is one comprehensive list of all advanced systems in the state for the purposes of pulling addresses to send the survey and also to locate properties for sampling. The issues with gathering this data show some of the management issues as they relate to data management.

The Florida State University Survey Research Laboratory was selected to perform the user-group perceptions survey task, and they have completed development of the surveys and they will be sent out after the holidays.

A revised draft of the Quality Assurance Project Plan for the sampling task has been submitted to the RRAC, and comments are due in the near future.

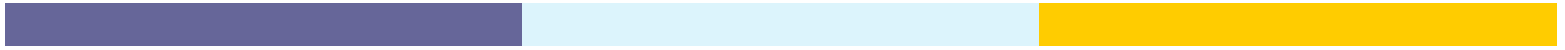
There was a discussion on what criteria should be used to select systems for sampling. Should there be a purely random sample taken or should the criteria be stratified? If it is stratified, what criteria should be used (i.e. type of permit (ATU vs. PBTS, commercial vs. residential), by counties (counties with many systems vs. counties with few systems), treatment technology /

manufacturer, maintenance history)? Bill Melton stated that his understanding is that the intent of the sampling is not to look at how extended aeration compares with fixed media but instead to look at how systems are operating throughout the state. Eb Roeder agreed with this: that this project is looking both at how systems operate (for example: whether they meet the permitted constituent levels) as well as how the management is working (for example: whether a well maintained system works better than a poorly maintained system). There was a discussion on whether to sample those systems that are turned off or in some way obviously not working as designed. Several RRAC members suggested just noting those systems when performing the site inspection but not sampling them and still others felt that gathering the sample results would be good information to have. After the discussion the RRAC recommended that the information should be noted and a percentage of those systems should be sampled but not all of them. It was recommended that staff members create a flowchart showing how to make the decision on which systems to sample. There was some discussion of selecting systems to allow distinction between treatment technologies, such as aeration approach. It was also recommended to get with the manufacturers on how to take grab samples and to include the maintenance entity and county health department when going out to sample the systems. Bruce French stated that there is a regulatory process for compliance enforcement and that the maintenance entity is to routinely provide a report to the department. Anthony Gaudio suggested first running some statistics on the overall sample population and then running a random sample and evaluating the results to eliminate some of the over or under represented systems. There were lots of pros and cons from the system selection strategies list that RRAC discussed, DOH will sift through the comments and send a strategy back to RRAC for comment.

6. **Manatee Springs Study: Comment on Final Report:** The original contracted sampling work has been completed. The final report on the entire project was submitted to EPA at the end of September. An additional sampling event occurred on September 10th during non-flood conditions. The final report that was sent to EPA has been amended with the new information and a draft of this report has been sent to the RRAC for review and comment. There are a couple of additional sections to the end of the Phase I report and some additions to the executive summary. The average septic tank effluent concentrations were about the same for total nitrogen. For both sampled sites there was about a 60-82% nitrogen removal. Eanix Poole asked whether the conclusions of this study were reliable and Eberhard Roeder stated that the groundwater data were more influenced by the flooding but that the effluent sampling showed a decline in nitrogen after the nitrogen reducing systems were installed. If the RRAC have any comments they would be appreciated so that they can be incorporated into the final report prior to sending to EPA.
7. **Updates on other projects:** [the following items were listed on the slide presentation but were not verbally discussed during the meeting]
 - a. **Town of Suwannee Study** – At the last RRAC meeting the committee voted to renew the contract with the contract provider to replicate the sampling effort during November and December of 2009. This contract renewal was completed and the sampling began in November.
 - b. **Monroe County Performance Based Treatment System Performance Assessment** – Quality control of existing data is ongoing. All sampling has been completed. A report summarizing this project is being written.

- c. **Optical Wastewater Tracers Study:** The final report on this project was submitted to EPA at the end of October.
- 8. **Upcoming Projects** [the following item was listed on the slide presentation but was not verbally discussed during the meeting]
 - a. **Columbia County Nitrogen Well Sampling Study:** The first step for this project is to obtain a purchase order with a lab that is able to do the sample analysis. Private labs will be contacted to see if they might be able to do the analysis. The Columbia County Health Department staff is interested in collecting the samples.
- 9. **Other Business** – Bill Melton mentioned that at the last RRAC meeting he had suggested that someone come to the next RRAC meeting to discuss getting information off the permitting database regarding alternative drainfield products. Kara Loewe stated that this will be addressed at the next meeting.
- 10. **Public Comment** - The public were allowed to comment throughout the meeting. There was no public comment.
- 11. **Next Meeting** – The next meeting will be scheduled for sometime in March. The meeting location has not been determined but may be at the Gulf Coast Research Facility and/or via teleconference. The focus of the next meeting will be to discuss the final report on the Nitrogen Reduction Strategies Study as well as discuss current and proposed research projects.

Bill Melton made a motion to adjourn, seconded by Pam Tucker, and the meeting adjourned at 2:04 p.m.



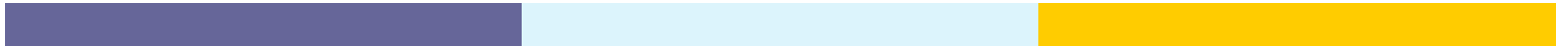
**Department of Health
Bureau of Onsite Sewage Programs
Research Review and Advisory Committee**

**Wednesday December 16, 2009
9 am - until**



Agenda:

- Introductions and Housekeeping
- (Review Minutes of Meeting September 10, 2009)
- Department's Interim Report on Nitrogen Reduction Strategies Study: Review, Comment, and Next Steps
- Nitrogen Reduction Strategies Study: Comment on Deliverables and Next Steps
- Section 319 Study Update: Comment on Proposed Sampling Plan
- Manatee Springs Study: Comment on Final Report
- Other Business
- Public Comment
- Closing Comments, Next Meeting, and Adjournment



Introductions & Housekeeping

- Roll call
- Identification of audience



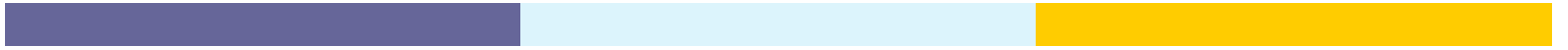
Review Minutes of Meeting September 10, 2009

- See draft minutes

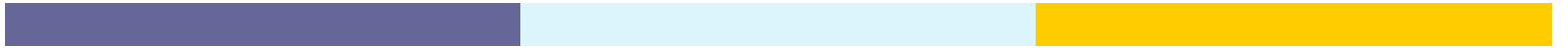


Draft Department's Interim Report on Nitrogen Reduction Strategies Study:

- Review, in particular:
 - Recommendations now or in final report (March)?
 - Add discussion of technologies currently available in Florida in comparison to prioritization results?
 - Add background on evidence requirements to become an “innovative system” in Florida, and innovative system permitting?
- Comments
- Next Steps: Routing within the Department in early January



Switch to Interim Draft Report



Ongoing projects



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Purpose: Develop passive strategies for nitrogen reduction that complement use of conventional onsite sewage treatment and disposal systems, and further develop cost-effective nitrogen reduction strategies



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Recent Progress:

- Numerous reports have been submitted :
 - Passive nitrogen removal study phase II quality assurance project plan
 - Classification, ranking, and prioritization of technologies
 - Literature review of nitrogen reduction by soils and shallow groundwater
 - Nitrogen reduction by soils and shallow groundwater quality assurance project plan
 - Test Center initial design
 - Literature review on nitrogen fate and transport modeling
- Draft Contract amendment, as recommended at July meeting, is currently being reviewed by provider



Florida Onsite Sewage Nitrogen Reduction Strategies Study

QAPPs:

- PNRSII
 - optimization studies:
 - 9 Stage 1 nitrification filters
 - 9 Stage 2 denitrification units (8 passive and 1 dosed addition)
 - 2 single stage filters with engineered media
 - 2 buried engineered media filters with drip of nitrified/septic tank effluent
- Soil and groundwater transport studies
 - Comparison drip/LPDS with nitrified/septic tank effluent (and comparison to buried engineered media filters): soil + groundwater
 - Monitoring of mound at test center (soil effectiveness by top of groundwater)
 - Monitoring of homes sites (soil effectiveness by top of groundwater)



Manatee Springs, Performance of Onsite Systems Phase II Karst Study

Progress:

- Final report on entire project submitted to EPA by end of September
- Added an additional sampling event during non-flood conditions mid-September and added to the report
 - Average STE TN results remained the same (150 H, 160 M)
 - Treatment units
 - H 60% overall, 70% without first sample (start up)
 - M 65% overall, 82% without last sample



Monroe County PBTS Assessment: Next Phase of Sampling in the Keys

Purpose: Evaluate effectiveness of
Performance Based Treatment Systems in
the Keys

Progress:

- Quality control of existing data ongoing
- All sampling completed
- Reports summarizing this project being written



319 Project on Performance and Management of Advanced Onsite Systems

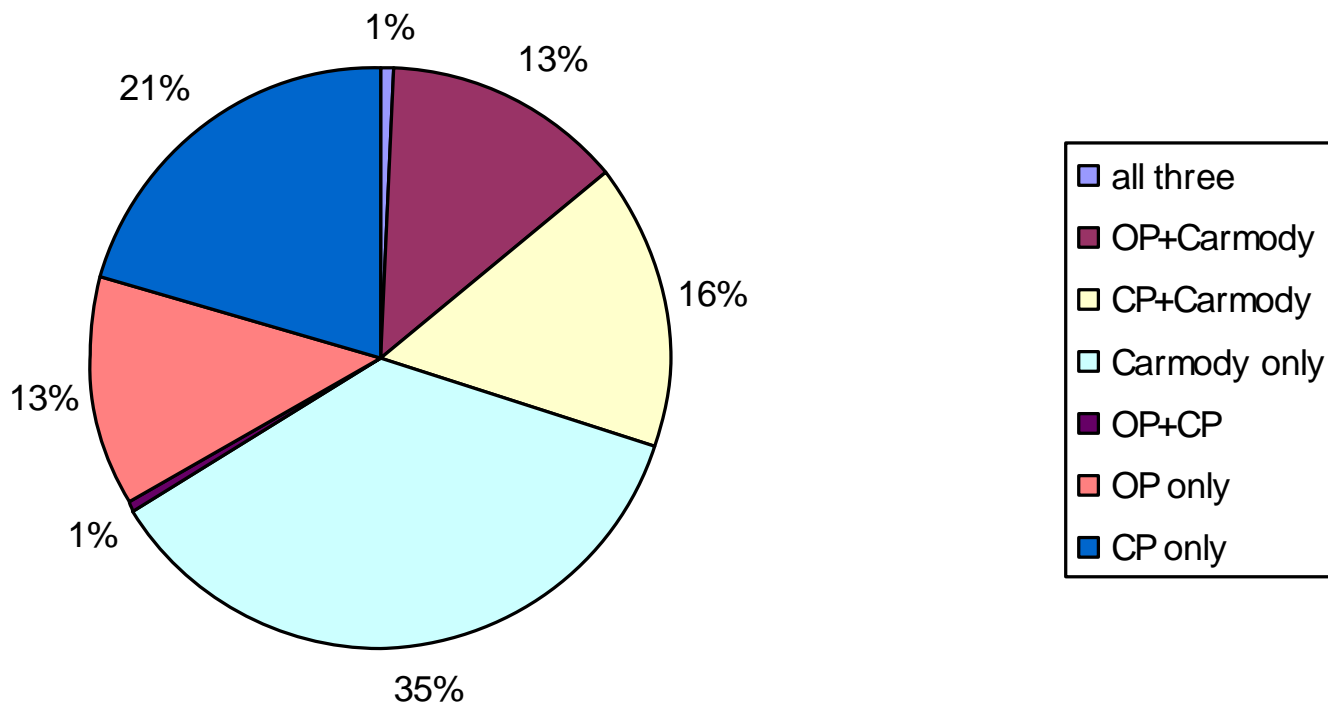
Progress:

- Database of advanced systems:
 - Data has been gathered from the state database (EHD), any county specific databases, and from Carmody
 - Database currently contains EHD data with unique, complete addresses, and Carmody records
 - Data fields and database structure have been discussed and sketched
- Survey of user groups perceptions task:
 - Provider is Florida State University Survey Research Laboratory
 - Development of surveys is complete
- ITB for laboratory analyses advertised



Matching results based on addresses

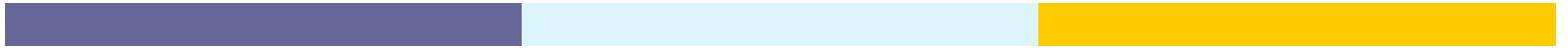
record sources 12/15/2009 n=20969





Some numbers

- **Estimated permit type: 10:1 ATU:PBTS; ~145 innovative; about 40% unknown**
- **Establishments (CP): 29:1 residential to commercial, 63% unknown**
- **Counties: three counties (Brevard, Charlotte, Monroe) each have more than 10% of records, 30 counties have fewer than 50 records**
- **Treatment Approach:**
 - **EHD-sources ~6:1 extended aeration: combined (~90% of records empty)**
 - **Carmody ~26:1:0.2 extended aeration: combined: fixed media (63% of records empty)**

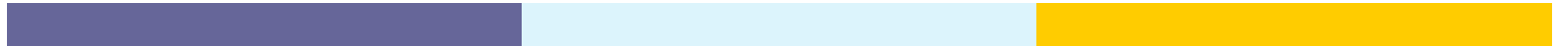


319 Project on Performance and Management of Advanced Onsite Systems

Purpose: Quality Assurance Project Plan (QAPP) draft report submitted to RRAC

■ Discussion?

- Selection of systems to sample (criteria?)



Town of Suwannee Study

- Sampling has started

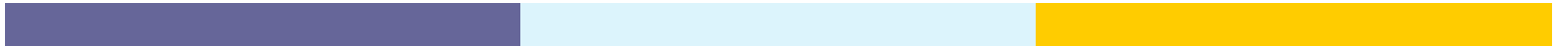


Optical Wastewater Tracers Study

Purpose: Test the feasibility of detecting wastewater inputs to Florida surface waters using optical characteristics such as optical brighteners from laundry detergents as tracers

Progress:

- Final report to EPA due end October



Upcoming projects

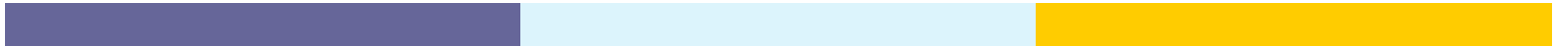


Columbia County Nitrogen Well Sampling Study

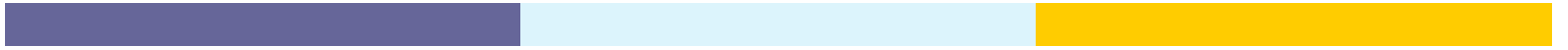
Purpose: To see whether pathogens and nutrients in well water on river-front lots are elevated and effected by either river or septic system influences, and whether there is any seasonal variability in this

Progress:

- Obtain purchase order with a lab that is able to do the sample analysis
- Coordinate with Columbia County Health Department staff to conduct the sampling



Other Business



Public Comment



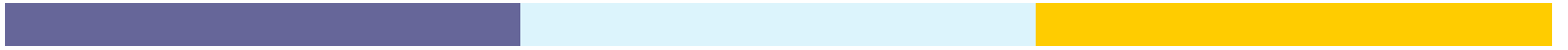
Next Meeting

Upcoming meeting topics:

Nitrogen Study Status Update

Proposed dates for next meeting:

- Suggestions?



Closing Comments and Adjournment