

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

Minutes of the Meeting held at the
Polk County Health Department Environmental Support Building in Bartow
May 02, 2006
Final July 25, 2006

In attendance:

Committee Membership and Alternates: Sam Averett (alternate FOWA) David Carter (Homebuilders); David Collins (Realtors); Paul Davis (member, DOH-Environmental Health); John S. Glenn (Environmental Interest Group); Jim Rashley (alternate, DOH-Environmental Health); Clay Tappan (Professional Engineers); Ellen Vause (alternate FOWA);

Not represented: Citizen; Florida Restaurant Association; State University System (not appointed)

Visitors: Patti Sanzone (Dept. of Environmental Protection)

Department of Health (DOH), Bureau of Onsite Sewage Programs: Paul Booher, Eberhard Roeder

1. Introductions: A quorum of five represented groups was reached. Chair David Carter calls the meeting to order at 10:30 am and welcomes new member John S. Glenn.
2. Review Minutes of Meeting 01/11/2006: Sam Averett motions and Paul Davis seconds to approve the minutes. It is suggested to rephrase "inform an incentive program" on p.3 and there is some discussion to clarify project proposals on p.3. Motion to approve minutes provided these changes are made carries with John Glenn abstaining.
3. Bureau News: Paul Booher reports that the Bureau has hired Elke Ursin as new research coordinator. In the legislature, bills have been proposed that would change the requirements of wastewater concurrency and mandatory hookup to sewer when it becomes available. (Ellen Vause arrives) Another set of bills concerns the Wekiva area, and would require a study, put rulemaking on hold, establish a maintenance program, and provide a grant program for upgrades. This leads to a general discussion about the relative benefits of upgrading old systems and changing new system requirements. Paul Booher discusses the advantages of dosed systems over gravity fed drainfields. He hands out a sheet with results of a study on ponding in drainfields for dosed and gravity-fed systems for several biological loading rates. Dosed systems experienced lesser ponding. He suggests that adding a pump to a system might have other advantages as well because more flow configurations such as recirculation become possible. Paul Booher is engaged in a program of training more people in the design of dosed systems and mentions that a proposed rule change would allow master contractors to submit designs.

In response to a question by David Carter about the reliability of effluent pumps Ellen Vause states that effluent pumps must be effluent rated, and Sam Averett suggests that the requirement of outlet filters has helped with pump longevity.

Eb Roeder reports that Florida has now an ocean and coastal resources research council, which is developing a research agenda to help the state manage resources better.

Comparisons between onsite and central sewer approaches have been suggested as topic to the council by DOH. He presents several slides on the distribution of onsite systems and management issues for onsite systems. A discussion of management and maintenance

of conventional systems follows. Ellen Vause suggests that DOH do some preparation work by scoping out how such a program would look like and evaluating what the results of maintenance and upgrade requirements are. Jim Rashley mentions that Citrus County is considering an inspection ordinance.

On the topic of upgrades of old systems in another slide, Paul Davis suggests that cheap prescriptive solutions are needed to make upgrades feasible. This leads to some discussion of marginal costs. Ellen Vause sees that about 50% of new systems include a pump with an additional cost of about \$1,200. She suggests that a prescriptive pump requirement might meet little resistance. Sam Averett estimates the additional cost for a dosed system at about \$1,500. Jim Rashley suggests a respond to the concerns about high costs of performance-based treatment system by requiring only drip-irrigation without effluent standards. Sam Averett estimates the additional cost compared to a conventional gravity system at \$5,000.

On the topic of coastal construction lines and onsite systems, Paul Davis note that this has been a frequent issue in Citrus County, and that DCA is studying mounds.

4. Review of Scopes for Research Projects approved by TRAP on 02/15/06

a. Drainfields functioning and performance assessment

The committee reviews the scope of the ITN “Florida disposal alternatives assessment”. The objective of this study is to compare and contrast alternatives (effluent distribution and infiltrative surface structure) to gravel drainfield as baseline to in terms of treatment effectiveness. Sam Averett and Ellen Vause note that gravel drainfield use is now under 10% in new systems and suggest to include the most popular alternatives in the study, which they suggest are chamber, multipipe, and synthetic rock (EZflow). In response to a question by John Glenn about composting toilets, Eb Roeder notes that they would not be considered in this study. From the perspective of drainfields they are more of a pretreatment than a alternative disposal approach. Sam Averett suggests to leave drip irrigation outside the scope and study it separately because the differences in pretreatment and interaction with vegetation. There is general agreement that drip irrigation should be addressed separately.

Lunch Break from 12:30 to 1:00

b. Glass as a substitute for fill sand

The objective of this screening study will be to compare virus transport through the same grain size distribution of sand and glass cullett, under two different loading rates by measuring the effluent over time. The discussion raises the issue that the specifications on the glass material must be clear. Sam Averett suggests that the study should result in recommendations on the size fractions that should be used. Sam Averett moves and John Glenn seconds a motion to move forward with the study. Eb Roeder’s question if two sands, such as clean quartz and organic coated sands should be considered, is answered by Ellen Vause and general agreement that the screening study should just use fine sand, not organically coated, to see if it is worthwhile to pursue this further.

c. Passive nitrogen removal under drainfields

Eb Roeder reports that this project was approved by TRAP and that not much progress has been made on the scope. There is agreement in the group that passive nitrogen removal would likely be installed and could be tested in media baskets in tanks. Upon further discussion a consensus develops that a literature review and column studies should be the first steps in this project. Sam Averett suggests to explore if such a project could be done within DOH labs.

d. Wekiva

TRAP approved the proposed performance assessment of a variety of PBTS technologies in the Wekiva Study area. Work on this study has been on hold pending the outcome of the legislative session, into which bills dealing with onsite systems in the Wekiva have been introduced.

5. Updates on current projects/draft reports

a. Taylor County Beach Water Quality

Eb Roeder presents the current status of data analysis from the extended beach monitoring by the County Health Department. Correlations are generally weak. Both canals, where septic tank influence might be present, and creeks, where septic tank influence is unlikely, have a tendency to higher pathogen indicator counts than beaches. Florida Atlantic University is beginning their phase of the study this week, which will include an assessment of before/after sewer installation changes. In the discussion an earlier study on sewer effects in the town of Suwannee is mentioned, which found no conclusive improvements. Sam Averett and Clay Tappan move and second that

“DOH find a way to retest the sampling sites of the Town of Suwannee”

to reach more definite conclusions. Unanimous approval. Ellen Vause points out that this should occur soon before too much additional construction has occurred.

b. Manatee Springs, Phase II (nutrient-removal upgrades):

Eb Roeder reports that the first round of desing for Magnolia II is completed and in discussions with the Park service. The Hickory upgrade is largely installed. FSU’s manuscript about phase I needs revision. Septic tank effluent was sampled on two occasions to provide a point of comparison. Total N in septic tank effluent ranged 70-150 mg/L, while total P in septic tank effluent ranged 8-31 mg/L. A sample from the dump station showed several-fold higher concentrations T, P. Eb Roeder is also analyzing the old tracer data in more detail.

c. Remote Sensing of Wastewater, funded by EPA-GMP grant

Eb Roeder reports that contracting with DEP and Mote Marine is complete. DEP’s role is field sampling, ground truthing of remote sensing, and application of remote sensing and is paid for from grant funds. Mote Marine Laboratory will characterize excitation-emission matrix of field samples and wastewater samples to develop a fingerprint for wastewater. This task is paid for from onsite research funds. The QAPP is currently under review.

d. Nutrient Removal:

i. Lee County collection of PBTS data: no progress

ii. Performance Assessment in the Keys:

After DOH determined to terminate negotiations with the sole offeror of the ITN, the current plan is to do this assessment as a special project with DOH staff.

iii. 319 project: Incentive Program to install Nutrient-reducing systems (Lee, Wakulla, Leon)

Eb Roeder reports that the geographical extent of the scope was expanded in response to interest in the Wakulla Springs watershed and concerns about the extent to which Lee would be able to participate. Sam Averett approximates that the proposed extent of the incentive program would be sufficient to pay complete system cost for about 35 systems, 75 systems at half the cost, and 100 systems at a third of the cost. The latter is the

currently proposed approach. The next step for the project is to contract between DEP's 319 program and DOH.

6. Considerations for future research projects

Before embarking on the agendaed list, Eb Roeder brings up again the management issues he had presented earlier:. Continued maintenance of systems after installation; assessment and management of environmental impacts, given large variability of environmental conditions; upgrade of systems to current or new standards. There is general agreement by RRAC that **DOH should gather data on maintenance programs in order to provide better information about associated costs and benefits**, e.g. from a mandatory pumping program. David Carter raises the question how many of the old systems are in the water table. Further discussion suggests a need to review studies to assess the groundwater impact such systems have. The effectiveness of alternate repairs is brought up as a potential topic for evaluation.

7. Springs Protection:

- i. Springs Task Force Recommendation: cooperation with State Park Service in assessing performance of advanced systems
- ii. Assessing the performance of one system at Ichetucknee Springs
Eb Roeder suggests that he will be contacting the State Park Service to learn about their plans. Sam Averett suggests the Crystal River Education Center as additional spring-related site where onsite system performance could be assessed,

b. Failures

- i. Analysis of failure data
Paul Davis suggests that statewide failure data may suffer from underreporting due to the complexity of the CENTRAX database system and the duplication with a recent paper reporting system. Ellen Vause suggests that such an analysis should compare failure rates for different products. Paul Davis has seen water use increase, in particular in failing systems. This stems from increasing housing costs prompting more people to live in one house.

- ii. Analysis of compliance of advanced systems
skipped

c. Comparison of centralized and onsite wastewater management (Ocean Research Council)

Discussed as part of 5a

d. Costs and Benefits of Management

Discussed previously

e. Setback Distances

skipped

7. Public Comment

none

8. Closing Comments, Next Meeting, and Adjournment

David Carter requests a budget update on the onsite sewage research funds. There is general agreement to meet in late August/early September. The meeting adjourns at 3:20 pm.

Submitted by
Eberhard Roeder