

Department of Health

Research Review & Advisory Committee (RRAC) Meeting



Onsite Sewage Program

Environmental Health Staff

Florida Department of Health
Disease Control and Health Protection
Bureau of Environmental Health
Onsite Sewage Programs

December 10, 2020



Agenda

1:30 – 1:40	Introductions and housekeeping
1:40 – 1:50	Old business & research program news
1:50 – 2:20	Onsite Sewage Program (OSP) staff provides update on status of program transfer to the Florida Department of Environmental Protection
2:20 – 2:35	Public comments and questions



Agenda – DOH Staff Provides Updates on Several Research Projects

2:35 – 3:00	OSP staff introduces draft request for quote for an evaluation of water quality impact from onsite sewage treatment and disposal system (OSTDS) by comparing water quality before and after septic to sewer conversion.
3:00 – 3:30	Public comments and questions.
3:30	Adjourn

Introductions & Housekeeping

- Committee roll call
- Identification of audience
- Will overall mute when presentation starts
- Unmute phone line = *2
- Do not put phone on hold
- Download meeting material:

<http://www.floridahealth.gov/environmental-health/onsite-sewage/research/rrac.html>



Onsite Sewage Program

Old Business & Research Program News



Onsite Sewage Program

Review of Meeting Minutes from September 4, 2020 Web Conference



Old Business – Action Items from RRAC Meeting on September 4, 2020

1. Contacted Drs. Casey Schmidt and Mark Clark with the University of Florida/Institute of Food and Agricultural Sciences for questions regarding the suitability of different tree species for the lignocellulose media.

Waiting for response.

2. Contacted Mr. Roland Ottolini from the Lee County Natural Resources for information regarding the Cape Coral Utility Extension Project for the Southwest 6 & 7 area.

Set up a conference call with Cape Coral on December 18, 2020.

3. Questions regarding the Cape Coral Borrow Pit Dewatering Project was included on the list of questions to Lee County/Cape Coral.

Will discuss during the December 18, 2020 call.

Program News – Mr. Ed Barranco Will Retire

- Bachelor of Science in 1982 from Spring Hill College in Alabama in 1982.
- Master of Public Health from University of South Florida in Florida in 1993.
- Served as an environmental supervisor in the OSP at the Florida Department of Health and Rehabilitative Services (HRS) Dade County Public Health Unit from 1984 to 1989.
- Transfer to HRS State Health Office in 1989, since then worked on:
 - Innovative OSTDS technologies and research contract management.
 - Development and implementation of OSTDS rules.
 - Continuing education and contractor registration.
- Appointed as the lead environmental administrator in 2015.
- Worked for the State for over 36 years.



Program News – Dr. Eb Roeder Will Be the Leading Administrator for the Onsite Sewage Program

- Ph.D. in Environmental System Engineering.
- Professional Engineer, Certified Environmental Health Professional, Project Management Professional, and Certified Public Manager.
- With OSP since 2004, worked on:
 - Coordinating OSTDS research program, serving as staff liaison to RRAC. preparing research proposal and managing research contracts.
 - Providing technical assistance to county health department for engineering design review.
 - Leading the statewide OSTDS product review and approval.
 - Participating in OSTDS rulemaking.
 - Supervising and managing the OSTDS research and engineering program.



Program News

1. RRAC memberships from the following groups will expire at the end of January 2021:
 - 1) Florida Department of Health (Dr. Eberhard Roeder and Ms. Elke Ursin)
 - 2) Septic Tank Industry (Ms. Roxanne Groover)
 - 3) Environmental Interest Group (Mr. Craig Diamond)
 - 4) Restaurant Industry (Mr. Geoff Luebke)

2. Should appointment for these memberships be solicited, given that SB 712 provides that RRAC will cease to exist July 1, 2021?



Program News - Continued

Working with the Leon County for Inground Nitrogen-Reducing Biofilters

- 1) Leon County received \$1.5 million from the Florida Department of Environmental Protection (DEP) to upgrade about 100 existing conventional OSTDS in the Wakulla Spring Priority Focus Area to passive nitrogen-reducing systems.
- 2) DEP will install monitoring equipment into eight of these systems and collect data from four of these systems, including two INRB and two INRB with liner.
- 3) DOH Onsite Sewage Program (OSP) will monitor two INRB with the funding from federal multipurpose grant.
- 4) OSP is working with Leon County to prepare a memorandum of understanding to allow the county to install two INRB with liner.



Program News - Continued

Working with the Alachua County Environmental Protection Division

- 1) Alachua County will have a development project in Flint Rock to built 90 new homes (each lot is 1 acre).
- 2) The county requires that these homes be served by nitrogen-reducing OSTDS because they are located in a springshed where karst features are prominent and conduit flow is known to exist.
- 3) The county is now applying for a grant to monitor the performance of some of these systems.
- 4) OSP will work with the county on the design of the monitoring project and analyses on the collected data.



Program News – Continued

Mr. Tom Baker asked about measures for controlling the impact of overusing antibacterial soap on the functions of septic systems.



Importance of Handwashing

The Center of Disease Control (CDC) emphasizes the importance of handwashing (<https://www.cdc.gov/handwashing/why-handwashing.html#nine>):

1. Reduces the number of people who get sick with diarrhea by 23-40%.
2. Reduces diarrheal illness in people with weakened immune systems by 58%.
3. Reduces respiratory illnesses, like colds, in the general population by 16-21%.
4. Reduces absenteeism due to gastrointestinal illness in schoolchildren by 29-57%.



Handwashing with Water and Plain Soap

CDC cited a study showing that handwashing with plain soap without anti-bacterial constituents can remove bacteria very effectively.

Burton et al. (2011) The Effect of handwashing with water or soap on bacterial contamination of hands – Int J Environ Res Public Health 8(1): 97-104

1. 20 volunteers contaminated their hands by touching door handles and railings in public spaces.
2. Bacteria of potential fecal origin found in 44% of samples with no handwashing.
3. Handwashing with only water reduces the presence of bacteria to 23%.
4. Handwashing with plain soap and water reduces the presence of bacteria to 8%



Antibacterial Soaps Provide No Extra Protection

Antibacterial Soap? You Can Skip It, Use Plain Soap and Water
(<https://www.fda.gov/consumers/consumer-updates/antibacterial-soap-you-can-skip-it-use-plain-soap-and-water>)

According to the U.S. Food and Drug Administration (FDA), there isn't enough science to show that over-the-counter (OTC) antibacterial soaps are better at preventing illness than washing with plain soap and water. To date, the benefits of using antibacterial hand soap haven't been proven. In addition, the wide use of these products over a long time has raised the question of potential negative effects on your health (5/16/2019).



FDA Banned 19 Antibacterial Ingredients

On September 6, 2016, FDA issued a final rule to establish that 19 antibacterial ingredients commonly used in OTC consumer antiseptic products intended for use with water are not generally recognized as safe and effective (GRAS/GRAE).

The rule became effective on September 6, 2017. Any unapproved OTC antibacterial wash products containing the 19 ingredients are subject to regulatory action.

When the rule became effective, FDA gave three ingredients, including benzalkonium chloride, benzethonium chloride and chloroxylenol more time to submit data to show they are GRAS/GRAE.

Reference: 81 FR 61106 Page 61106 – 61130. CFR: 21 CFR 310



Quaternary Ammonium Compounds (QAC)

- Benzalkonium chloride and benzethonium chloride are QACs.
- QACs are most extensively used as ingredients in biocides, disinfectants, sanitizers, antimicrobials and cleaners.
- Annual production in the United States more than 100 million pounds.
- Amphiphilic nature of QACs disrupts bacteria cell membrane and virus envelope.



Effect of QACs on Wastewater Treatment

- Studies on effect of QACs on septic tank performance are limited.
- ALysol concentration of 5.0 mg/L destroyed the bacteria in a domestic tanks (Gross 1987).
- In wastewater mainly removed through sorption to biosolids and biodegradation (Hora, et al. 2020).
- Triclosan Sorption to suspended particle can happen within minutes. Up to 86% triclosan settled to sludge in 24 hours (Kirjanova, 2014).
- QACs inhibit activated sludge at 10 – 40 mg/L level for wastewater treatment plants (Reynolds, et al. 1987).
- Nitrification process is more sensitive to QACs and can be inhibited at 1.5 mg/L level (Yang, et al. 2015).
- Wastewater plants influent concentration up to 300 $\mu\text{g/L}$ (Martinez-Carballo, 2007).



Production of QACs Increase Due to COVID-19 Pandemic

- U.S. sales of disinfectant wipes were 146% higher in 2020 than the same period in 2019 (Terlep, 2020).
- Lasting changes in consumer behavior and increased demand disinfectant and antibacterial product after the COVID-19 pandemic are anticipated (Chaudhuri, 2020).
- Global surface disinfectant market forecast 9.1% compound annual growth rate from 2020 to 2027 (Fortune Business Insights, 2020).



CDC and FDA Recommendations

Question: Should I be using antibacterial soap to wash my hands to prevent COVID-19 infection?

Answer from FDA: The best way to prevent the spread of infections and decrease the risk of getting sick is by washing your hands with plain soap and water, advises [CDC](#). Washing hands often with soap and water for at least 20 seconds is essential, especially after going to the bathroom; before eating; and after coughing, sneezing, or blowing one's nose. There is currently no evidence that consumer antiseptic wash products (also known as antibacterial soaps) are any more effective at preventing illness than washing with plain soap and water. In fact, some data suggests that antibacterial ingredients could do more harm than good in the long-term and more research is needed. If soap and water are not available, CDC recommends consumers use an alcohol-based hand sanitizer that contains at least 60% alcohol.



Onsite Sewage Program

OSP staff provides update on status of program transfer to DEP

Onsite Sewage Program Transfer

- On June 30, 2020, Governor DeSantis signed Senate Bill (SB) 712 into law laws.flrules.org/2020/150
- Primary impact to the Department of Health (DOH) is the type II transfer of the Onsite Sewage Program (OSP) to the Department of Environmental Protection (DEP) on July 1, 2021
- There are several reports and an interagency agreement that must be completed prior to the transfer date
- July 1, 2020 report on program: www.floridahealth.gov/environmental-health/onsite-sewage/_documents/onsite-sewage-program-report-SB712.pdf



Law Requirements

- Technical Review & Advisory Panel (TRAP) repealed July 1, 2021
- Research Review & Advisory Committee (RRAC) repealed July 1, 2021
- Temporarily creates the OSTDS technical advisory committee ss. 381.00652 under DEP
 - 10 member committee
 - Increase availability of enhanced nutrient-reducing OSTDS
 - Recommend setback distances; surface water, ground water, and wells
 - Active by August 1, 2021
 - Submit committee recommendations report by January 1, 2022 to Governor and Legislature
 - Section expires August 15, 2022

Law Requirements (Continued)

- Onsite sewage permitting will be done by DEP via Interagency agreement with DOH CHDs (at least 5 years)
- Contractor Licensing Part III of Chapter 489, FS, is transferred to DEP
- Continuing education for sections 381.0101 and 489.554, FS, related to OSTDS is transferred to DEP
- Contractor enforcement transferred to DEP (CH. 489, FS)
- All effective July 1, 2021

OSTDS = Onsite sewage treatment and disposal systems

Law Requirements (Continued)

- Amends ss. 381.0101, FS
 - Removes OSTDS certification and leaves, as a minimum, the food protection program area under the Certified Environmental Health Profession (CEHP) credential program
 - Impact to private soil evaluators operating under their CEHP in OSTDS

Recommendation Report Requirement

- SB 712 requires DOH and DEP to submit a Recommendations Report of the transfer to the Governor & Legislature by December 31, 2020
- Must include recommendations on all aspects of the transfer of the Onsite Sewage Program from DOH to DEP
- Address the continued role of the DOH county health departments (CHD) in permitting, inspection, data management, and tracking of the onsite sewage treatment and disposal systems (OSTDS) under direction of DEP and an interagency agreement
- DOH contracted with the Florida Conflict Resolution Consortium (FCRC) Consensus Center at Florida State University



Recommendation Report Process

- Facilitators interviewed staff at both agencies for an initial assessment and identification of issues.
- Issues were explored and discussed at teleconference meetings with staff from both agencies, with special topics assigned to drafting groups.
- Facilitators presented and continuously refined a draft report to outline possible future structures of the program and issues for the interagency agreement to address.
- Drafts are being reviewed by leadership at both agencies.



Draft Report Considerations

- Continue current funding mix until or unless a new funding model is implemented
- DEP has access to employees and resources needed to provide direction of the OSTDS program
- DOH CHDs continue to have access to employees, skills and resources to continue providing EH services
- OSTDS program continues to provide services as close as possible to the county level
- Use 5-year interagency agreement period as a transitional period to develop permanent program structure

State Health Office Functions

- Program office staff and functions transfer to DEP.
- Environmental Health Database and its successor remain at DOH and are accessible to program staff working at DEP or DOH.
- CEHP in OSTDS or equivalent training are available to DEP staff, DOH staff and private site evaluators.



Continuing work at CHDs

- Draft report discusses four scenarios for employees performing work currently done at CHDs
- Currently recommended scenario
 - Employees currently performing OSTDS functions at CHDs should remain DOH employees, with delegated authority from DEP to perform OSTDS functions.
 - Employees should remain in their current or similar locations and continue to perform the same or similar range of functions they currently perform.
 - OSTDS functions performed by these employees should be performed under direction of DEP.



Onsite Sewage Program

OSP staff introduces draft request for quote for an evaluation of OSTDS regional water quality impact by comparing water quality before and after septic to sewer conversion.



Project Background

1. Project proposed by both Drs. Eb Roeder and Dan Meeroff.
2. Original goal:
Evaluate the correlations between water quality, OSTDS, and health effect.
3. Ranked by RRAC in December 2017 as one of the five high priority research projects.
4. The original goal was modified to be more focused:
Evaluate OSTDS impact on regional water quality condition through analyzing the change of the water quality condition before and after a septic to sewer conversion project.



Project Scope of Work

1. OSTDS environmental impacts frequently evaluated based on short-term near-field groundwater and surface water monitoring. Linking the results to regional water quality dynamic is difficult.
2. This project will evaluate the OSTDS impact by comparing the regional change of OSTDS distribution and regional change of water quality condition.



Project Scope of Work - Continued

This project requires interested candidates to:

- A. Identify an area with significant change of OSTDS distribution (e.g. a septic to sewer conversion project).
- B. Identify a waterbody/waterbodies impacted by the change of OSTDS distribution.
- C. Examine the change of water quality condition before and after the OSTDS distribution change.
- D. Evaluate the relationship between the change of OSTDS distribution and the change of water quality condition.
- E. Analyze the influence from confounding factors, such as weather condition, other local water quality projects, etc., on this relationship.
- F. Discuss the OSTDS impact on the regional water quality condition.



Request for Quote for the Study

OSP will seek a provider to conduct this project. Interested candidates should submit:

- A. Resume or curriculum vita of all individuals to participate in the project, showing experience in OSTDS, environmental health, geographic information system and statistical analyses, and report preparation
- B. A draft scope of work showing the study approach, OSTDS project areas and related information, impacted waterbody/waterbodies, sufficient data for water quality analyses before and after the OSTDS project, confounding factors analyses, and approach to determine the OSTDS regional water quality impact.
- C. Cost and timeframe for the project (OSP will provide \$20,000 for the project and expect the project be finished by June 30, 2021).



Candidate Selection Criteria

One successful candidate will be selected based on:

- A. Candidate's experience in OSTDS evaluation (including environmental impact analyses), GIS analyses and statistical analyses.
- B. OSTDS case identification (OSTDS project, OSTDS project start and ending dates, the number of OSTDS converted, age and condition of removed OSTDS, impacted waterbody, hydraulic relationship between the project area and impacted waterbody, number of water quality stations with long-term water quality data, control water quality stations, weather data, information regarding other water quality related projects)
- C. Water quality parameters included in the analyses (must have nitrogen, other parameters preferred include phosphorus and pathogen)



Candidate Selection Criteria - Continued

- D. Confounding factor analyses: Approach for identifying the confounding factor and evaluating the influence of confounding factors. List of confounding factors included.
- E. Data analysis: Approach clearly defined.
- F. Costs to conduct the project.



Tasks to Achieve

Task 1: Discuss with OSP staff to finalize and submit the approach document

Deliverable: The approach document will include identification for project area, impacted waterbody, hydraulic relationship, water quality data to be analyzed, water quality stations, source of data, data quality control, confounding factor analyses, and approaches to evaluate the OSTDS regional water quality impact.

Task 2: Collect proposed data

Deliverable: A report summarizing the data collected, source of data, period of records, quality control results, and databases holding all the collected data.



Tasks to Achieve - Continued

Task 3: Analyze collected data

Deliverable: A report describing in detail data preparation for the analyses, analytical methods, results, results interpretation, evaluation of influence from confounding factors. Data files from data analysis applications should be submitted as part of the deliverable.

Task 4: Develop and present draft final report

Deliverable: Draft a final report and present the results to RRAC and OSP staff. The draft report shall include introduction to the study site, description of approaches, methods, analytical tools and parameters to be included in the study, the results from the analyses, discussion of the results, and recommendation for further analyses.



Tasks to Achieve - Continued

Task 5: Final report

Deliverable: The draft final report shall be finalized based on comments from RRAC members and OSP staff.



Contact Information

Florida Department of Health
Division of Disease Control & Health Protection
Bureau of Environmental Health
Onsite Sewage Programs
850-245-4250

