

FWEA Manasota Chapter

Vol 7 - August 2011

Message from the Steering Committee

By Lindsay Marten, Public Relations Chair and Webmaster

Summer has been an eventful time of year for the FWEA Manasota Chapter. The Chapter continues to expand, as there have been several new additions to the Steering Committee. I have joined the committee as the Public Relations/ Webmaster Chair. My responsibilities are to make certain that FWEA events that Manasota is involved with receive the proper press through correspondence with local media and updates to the Chapter's webpage. Also, Todd Bosso has been inducted as Treasurer, in which he oversees the Chapter's budget and expenditures and handles all of the financial aspects. Lastly, Len Bramble and Jeff Goodwin have both become Members at Large, in which they help guide the Chapter, assist in decision making, and provide valuable input.

On another exciting note, FWEA's Manasota Chapter commemorated its 1-year anniversary celebration on June 24, 2011. This summer occasion was hosted in the breezeway of the Polo Grill in Lakewood Ranch. Delicious hors d'oeuvres and beverages were served as members and supporters of the Chapter conversed and shared stories over the past year's events, activities, and accomplishments.

For the June luncheon meeting, Len Bramble, the Director of the City of Venice Utilities Department, presented to intrigued local individuals concerned with water quality and the environment. Len discussed the City's efforts to understand recent water quality concerns in regards to Enterococci bacteria issues. The presentation provided an overview of the history leading up to the recent Enterococci concerns at Venice Beach and the City's efforts to identify its causes in order to rectify the issue. The Manasota Chapter would like to thank Len for an excellent presentation and would also like to thank all of those who participated.

The next luncheon is scheduled for September 7, 2011, where Brian Houston will be presenting. He is a Senior Project Manager with SAIC, where he assists Water and Wastewater Utilities to advance the business of infrastructure management. His presentation will focus on the ASCE Infrastructure Report Card process that SAIC is preparing for the City of Sarasota's Utility Department. In addition to the presentation, the luncheon has 1 PDH credit approved and CEU credits approved as well.

This summer has been full of events and exciting news. Thanks to you for all of the participants, volunteers, presenters, and sponsors for making these events memorable. There are many more great opportunities and occasions to come, including the upcoming September luncheon. The FWEA Manasota Chapter hopes to see you there!

FWEA Manasota Chapter Steering Committee Officers

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Len Bramble: 941.480.3333

Jeff Goodwin: 941.792.8811

*If you are interested in participating as an officer
on the Steering Committee, please contact us.*

*We are currently seeking a Vice-Chair
and additional members at large.*

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Manatee County Utilities Central Wastewater Laboratory Tour

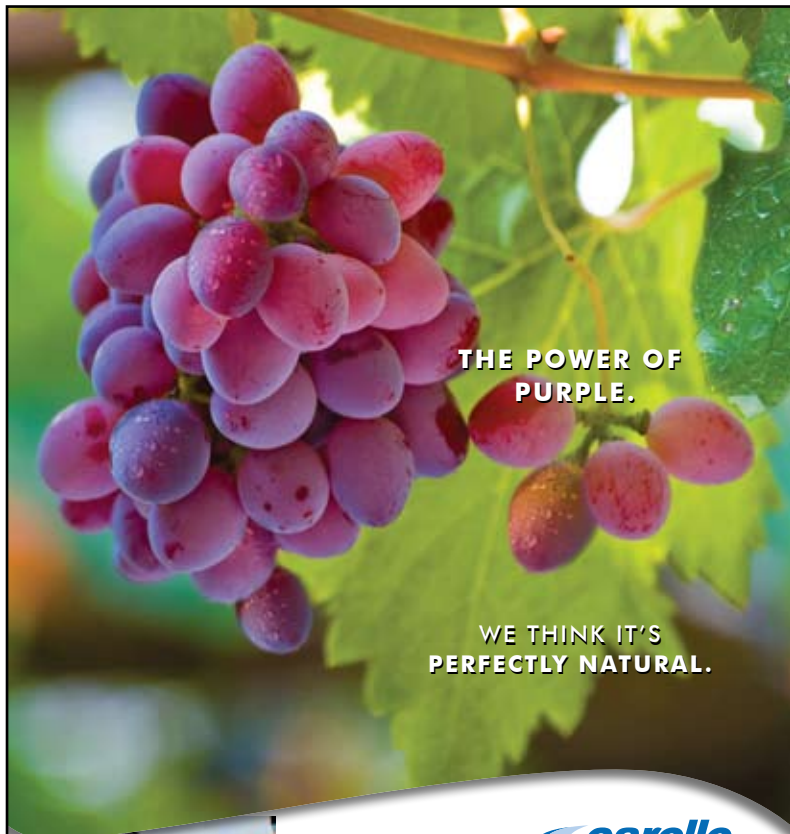
The Manatee County Utilities Central Wastewater Laboratory provides analytical services to the County's Water Reclamation Facilities. Additionally, the Central Laboratory provides analytical services to the Industrial Compliance Section, the Solid Waste Section, and to a limited extent, the Water Treatment Facility, as well as the Natural Resources Department. These services include data analysis, interpretation and consultation to assist in water treatment and permit requirements. The Central Laboratory performs approximately 40,000 analyses each year, including quality control samples.

When September 21, 2011, 3:30 PM

Where 4751 66th Street West, Bradenton, FL 34210

Happy Hour Social following at
Bonefish Grill: 7456 Cortez Road W., Bradenton, FL

*RSVP Linda Maudlin @ 941.378.3579 or
lmaudlin@greeley-hansen.com*



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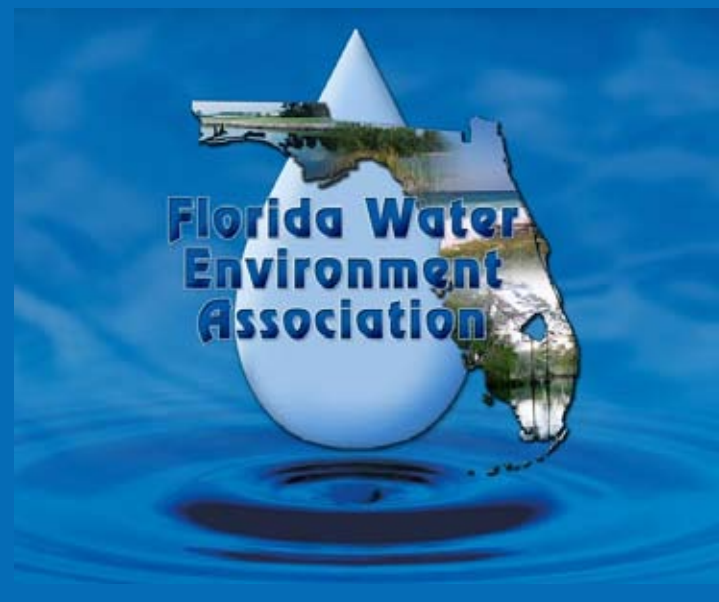
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for advertising sizes and rates: 941-371-9832



Reminder!! RSVP today!

Dear Professional Engineer Candidates:

Beginning August 2, 2011 (Tuesday), ASCE SunCoast Branch is excited to offer Professional Engineering (P.E.) review classes for all local candidates (including non-members) of the October 2011 and April 2012 exams. All classes are **FREE!** The courses will be taught by highly-regarded local professionals currently working in the related field. RSVP to Amjid Hussain (ahussain@scgove.net) is required by Monday before 5 p.m. for every class. Please see the schedule provided below.

DATE	TOPIC	CONF. ROOM	INSTRUCTOR
8/2	Test Preparation Overview/Horizontal & Vertical Curves	BOB 3	Sonya Fronckowiak, P.E.
8/9	Stormwater, Hydrology, Hydrographs, SCS	BOB 3	Andrew DiLorenzo, P.E.
8/16	Foundations & Retaining Walls, Soil Mix, Geotechnical	BOB 3	Scott Parrish, P.E.
8/23	Water Supply, Pumps, Pipes, Reservoirs, Water Quality	BOB 3	Chris Sharek, P.E.
8/30	Construction, Scheduling/ Engineering Economics	BOB 3	Gary S. Downing, P.E.
9/6	Wastewater Design	BOB 3	TBD
9/13	Transportation	BOB 3	Amjid Hussain, P.E.
9/20	Structural Engineering, Steel, Concrete	BOB 3	Chris Wright, P.E. and Doug Ball, P.E.

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Regulatory Update: Numeric Nutrient Criteria - Part 3

By Chris Hill, Brown and Caldwell

As you are no doubt aware, the United States Environmental Protection Agency (US EPA) adopted final numeric nutrient criteria (NNC) for total nitrogen (TN) and total phosphorus (TP) for Florida waters in November 2010. These criteria include all Class I and III lakes, rivers, and streams outside of South Florida. Depending on the Nutrient Watershed Region (NWR), TN limits for streams range from 0.67 to 1.54 mg/L, and TP limits range from 0.06 to 0.12 mg/L. Limits for lakes range from 0.51 to 1.27 mg/L for TN and range from 0.01 to 0.05 mg/L for TP. In addition, nitrite-nitrate is limited to 0.35 mg/L in springs.

Much of the discussion regarding NNC has focused on the cost to Florida city and county governments, agriculture and industry, and ultimately Florida residents. Indeed, the total costs to Florida are considerable and range from hundreds of millions to several billion dollars annually depending on the estimate. The costs for the municipal wastewater industry alone range from approximately \$40 to \$400 million annually.

Because of the large discrepancies in the estimated costs to implement EPA's NNC across all affected industries, the National Academy of Sciences (NAS) has convened the Committee to Review EPA's Economic Analysis of Final Water Quality Standards for Nutrients for Lakes and Flowing Waters in Florida. The committee is tasked with reviewing the US EPA economic analysis and weighing in on the incremental cost of the regulation to Floridians. The committee held its first public meeting in Orlando on July 25 and 26 and is expected to release its findings by February 2012.

Meanwhile, the Florida Department of Environmental Protection (FDEP) issued draft revisions to its own Surface Water Quality Standards (F.A.C. 62-302) and Impaired Waters Rule (F.A.C. 62-303) in an attempt to head off the federal rule. In short, the rule establishes numerical interpretations of the existing narrative criteria for all Class I, II, and III waters. FDEP is proposing to establish these interpretations in a hierarchical manner. Total maximum daily loads (TMDL) and site specific alternative criteria (SSAC) shall be the numeric interpretation of the criteria where they exist. If no TMDL or SSAC exists, but the water is impaired due to nutrient loading, then the US EPA NNC will be

used as the numeric interpretation for lakes and spring vents. FDEP is proposing a framework for numeric interpretation applicable to streams that uses the federal criteria in combination with biological verification. FDEP has also said that if the ambient nutrient concentrations are below the US EPA thresholds, then the water body is deemed to meet the existing narrative standard.

FDEP has hosted a series of workshops around the State, most recently in Leesburg on July 27 and Tallahassee on August 2 to discuss the proposed FDEP-revised rule language. Public comments are due August 16 with a final round of workshops scheduled in September. If FDEP decides to proceed with rulemaking, the revisions will go forward for adoption by the Environmental Regulation Committee in early 2012, with subsequent ratification during the 2012 legislative session.



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Regulatory Update: Numeric Nutrient Criteria - Part 3 (cont.)

By Chris Hill, Brown and Caldwell

In other legislative news, Rep. John Mica (R-Fla.) and Rep. Nick Rahall (D-W.Va.) introduced HR 2018, the Clean Water Cooperative Federalism Act of 2011. The bill passed the House Transportation and Infrastructure Committee on June 22 and was passed by the U.S. House of Representatives by a vote of 239-184 on July 13. Among other things, the bill would restrict US EPA's authority to promulgate state water quality standards and "supersede" state water quality certifications. Though the bill faces steep hurdles getting through the Senate, and the White House has threatened to veto the measure should it make it to the President's desk, the very existence of the bill shows how contentious the issue has become.

HR 2018 comes on the heels of numerous other legal challenges to the rule, including those by the Florida Office of the Attorney General, the Florida League of Cities and Florida Stormwater Association, and several Florida water utilities. In addition, a group of 50 national and multi-state organizations, municipalities, corporations, and regional entities from throughout the U.S. wrote to US EPA to express their concern with rule. These organizations specifically questioned US EPA's decision to impose numeric nutrient criteria independent of an assessment of the water body biology.

What does all this mean to us? Simply put, short of a federal injunction, it is not a matter of "if" but "when" numeric criteria will be implemented in Florida. US EPA has stated that they believe FDEP would have eventually established numeric criteria for Florida waters, and that the NNC at their core simply speed up that process.

Indeed, despite significant differences in the way FDEP and US EPA are approaching nutrient criteria, the FDEP draft language is indicative of that, and if adopted would establish similar criteria to those contained in the federal rule.

In US EPA's opinion, the costs of the NNC to the regulated community are outweighed by the environmental costs associated with delays in implementing numeric criteria. Even the NAS committee is focusing on "the incremental cost of the federal regulation" rather than the science behind the regulation. It is true that embedded in those estimates are some assumptions regarding the effectiveness and necessity of various wastewater treatment technologies. Ultimately, however, their findings will not be on the merit of the rule, but rather on the validity of the various estimates of the cost of the rule that have been prepared.



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Calendar of Upcoming Events

August

AUGUST

- 2** PE Review Course
- 9** PE Review Course
- 16** PE Review Course
- 18** Suncoast Branch ASCE Meeting, Sarasota, FL
- 18** FWEA West Coast Section Luncheon, Tampa, FL
- 23** PE Review Course
- 25** FS/AWWA Young Professionals Summer Seminar, Sarasota and Tampa, FL
- 30** PE Review Course

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September

SEPTEMBER

- 6** PE Review Course
- 7** FWEA Manasota Chapter Luncheon, Lakewood Ranch, FL
- 8** Southwest Florida Water & Wastewater Exposition, Fort Myers, FL
- 13** PE Review Course
- 15** Suncoast Branch ASCE Meeting, Sarasota, FL
- 20** PE Review Course
- 21** Manatee County Central Wastewater Laboratory Tour
- 24** ASCE SunCoast Branch End of Term Picnic at Oscar Schere Park.

SUN	MON	TUE	WED	THU	FRI	SAT
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October

OCTOBER

- 14** FSAWWA Region IV Charity Golf Tournament, Dade City
- 20** Suncoast Branch ASCE Meetings, Sarasota, FL

SUN	MON	TUE	WED	THU	FRI	SAT
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30	31					

Consultant's Corner: Reducing Costs to Meet Today's Challenges

By Tom Friedrich, P.E., BCEE, Jones Edmunds & Associates, Inc.

Every municipality is facing the challenge of maintaining current operations and levels of service for wastewater and water treatment facilities with reduced revenues. Most municipalities have reorganized and/or downsized over the last 2 years while still operating and maintaining facilities and meeting regulatory permit limits and new challenges.

To complete needed capital improvements, many infrastructure projects have been reevaluated and phased to provide "capacity as needed"; that is, to design and construct only the most critical items to allow the facility to maintain or meet regulatory compliance. In addition, reducing operation and maintenance (O&M) costs is essential because of reduced funding and pressure to be energy efficient, reduce power costs, and use alternative energy. All of us have become smarter in how we approach projects and creative in how we use existing evaluation tools, new technology, and unit process improvements to meet the ongoing infrastructure challenges. The following highlights several municipal utilities that have embraced this approach.

Charlotte County Utilities (CCU) - East Port Water Reclamation Facility (WRF) Phased Expansion and Optimization

In 2008, CCU placed the final design of the East Port WRF expansion to 9 mgd on hold at the 30-percent design phase because of declining growth and funding shortfalls. In 2010, Jones Edmunds updated the existing Preliminary Engineering Report to include a phased implementation plan that optimizes existing unit processes, accounts for improvements made by CCU within the collection system and the WRF, and produces an energy-efficient, phased plant expansion to achieve a re-rated plant capacity of 9 mgd. This phased plan will be implemented through 2019 in five stages. The benefits of this phased approach include matching needed plant improvements to available funding; providing capacity only as needed; improving facility unit treatment processes; and upgrading electrical, instrumentation, and controls to reduce facility power and overall O&M costs.

Jones Edmunds and the City had developed a sequential aerobic digestion process to allow the City to produce Class A biosolids for land application as regulated under Alternative 4 – Biosolids Treated in Unknown Processes, 40 CFR 503. To meet the Class A pathogen requirements under this alternative, a certified laboratory



must test the biosolids for *Salmonella* sp., enteric viruses, and viable helminth ova at the time of biosolids use or disposal. With the promulgation of FAC 62-640 Biosolids Rule by FDEP effective August 29, 2010, the City was no longer able to use the sequential aerobic digestion process. However, the City realized that they could save \$150,000 a year by using the aerobic digesters operated to produce Class B biosolids suitable for land application under the new rule. The benefits of this change that the City has realized include \$100,000 savings in power costs by reducing the number of blowers and aerobic digesters in service and \$50,000 in contract laboratory pathogen testing.

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Consultant's Corner: Reducing Costs to Meet Today's Challenges (Cont.)

By Tom Friedrich, P.E., BCEE, Jones Edmunds & Associates, Inc.

City of Clearwater - Energy Audit and WRF Improvement Project Implementation

Jones Edmunds teamed with Siemens to perform energy audits on the City's three WRFs with a combined design capacity of 28.5 mgd. Jones Edmunds provided a detailed understanding of existing facility design, developed BNR models, evaluated facility performance-limiting factors and plant operations, and helped develop energy-reduction concepts. The initial energy audit identified over \$10 million of capital improvement projects that could be implemented under a performance contract with Siemens. The project financing is paid based on the annual energy and operational savings realized by the City. The annual savings is monitored and guaranteed by Siemens over the 15-year contract. Other benefits include developing an alternative energy project that produces electricity from cogenerating biogas and implementing all capital improvement projects under a turnkey contract within a 15-month schedule.



Pinellas County Utilities - Water Quality Modeling, Distribution System Evaluation and Improvements

Jones Edmunds developed a County-wide WaterGems[®] potable water distribution model in 2003. In 2010, we worked collaboratively with County staff to update and re-calibrate the model to evaluate water quality issues throughout the distribution system, develop short- and long-term solutions, and reduce the annual amount of flushing water (accounted but non-revenue water). Specifically, the reduction in annual average water demand throughout the County's distribution system was increasing the frequency of distribution system nitrification events in areas with higher water age.

The solution was developed through workshops with County staff and include pressure and chloramine

booster stations, line looping, and a new high-service pump station to allow the County to blend well field water at the regional point of connection with Tampa Bay Water to improve and provide consistent water quality. The recommendations will be implemented in phases over several years and will allow the County to reduce flushing water requirements by approximately 30 percent and energy requirements by 5.3-million kW-hour/year. The projected O&M savings is estimated to be \$1 million/year from reducing flushing water, labor, and power savings.

Sarasota County - Pollutant-Loading Model

Sarasota County and the Southwest Florida Water Management District funded storm-event monitoring in medium-density residential areas to determine if there were significant differences in pollutant loads from areas served by curb-and-gutter versus areas served by swales. We found that concentrations for nutrients, total suspended solids, and other pollutants were significantly lower in the neighborhoods served by swales versus those served by curb-and-gutter. The total nitrogen and phosphorus loading was 93- and 82-percent lower, respectively, in the neighborhoods with swales, and findings that infiltration in the swales is a significant contributor to the load differences.



Applying these findings County-wide results in a difference of over 500,000 lb/year of total nitrogen loading—a key pollutant in the County's system of bays. The findings from this study have many important implications to the County and elsewhere in Florida. Benefits of this work include mitigating the cost of retrofitting infrastructure to achieve an equivalent nutrient reduction with an estimated savings in excess \$2 billion.

Luncheon Meeting - September 7, 2011

City of Sarasota Utility Infrastructure Report Card

by Brian Houston, Senior Project Manager with SAIC

Abstract

The City of Sarasota's Utility Department wanted to understand better and communicate to stakeholders how their utility was performing with respect to expectations typical of the utility industry. Several options for accomplishing these objectives were entertained, but the Department settled on using the ASCE Infrastructure Report Card (IRC) process and engaged SAIC to prepare the IRC for them. The IRC process differs from many other approaches in that it is not benchmark-based (relying primarily on comparison of performance to that of other utility organizations), but rather a review of performance against best industry practices.

Applying the IRC on a very specific level (in lieu of its typical application across very broad categories, and on a national or state level) required a significant investment of time of both the reviewer (SAIC) and the City staff. Extensive interviews were conducted, significant data review was completed, and site visits were conducted across a wide array of facilities. The result, however, was

a well-founded readily-defensible Report Card assessing performance across ten different asset classes within the Utility. The IRC grades provided the Utility with an easily understandable tool to communicate to laymen regarding Capital needs, and specifically where funds should be focused in the immediate and near future.

Brian Houston

Brian Houston is a Senior Project Manager with SAIC, focused on assisting Water and Wastewater Utilities to advance the business of infrastructure management. Brian is a Hokie (BSCE - Virginia Tech) and a Spider (MBA - University of Richmond) with PE-licenses in six states and is a LEED AP. He worked in engineering design firms for the first sixteen years of his career in design, project management, and management roles, and joined R.W. Beck (now SAIC) in June 2008 in order to shift his focus to utility management issues.

FWEA MANASOTA CHAPTER LUNCHEON MEETING

FÊTE/POLO GRILL

10670 Boardwalk Loop, Lakewood Ranch, FL 34202

Registration - 11:30 • Lunch and Program - 12:00

Choice #1 - Rosas Farms Burger - Served on a Pretzel Bun with Swiss Cheese with Housemade Kettle Chips.

Choice #2 - Lynn's Salad with Grilled Chicken (or Vegetarian) - Field Greens, Corn, Dried Cranberries, Sunflower Seeds, Grape Tomatoes, Cucumber, Shredded Mozzarella and Balsamic Vinaigrette

Dessert - Freshly Baked Smores Cookies

Cost: \$22 for pre-registration online or by mail, phone, fax, or e-mail • \$25 at the door
\$15 for municipality employees or student

No credit card payments day of event - check (made payable to FWEA) or cash only please

Pre-registration deadline: Friday, September 2

*******0.1 CEU and 1 PDH credit will be offered for this luncheon*******

REGISTRATION FORM

Registration can be made by mail, phone, fax, or e-mail, with payment mailed in advance or collected at the door.

Name	Company/Affiliation	Phone	Choice of Meal

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