



Palm Beach Branch

2019 | Q1

INSIDE THIS ISSUE

President's Message

Upcoming Events

31st Annual Engineers
in Government Night

Luncheon Recaps

Legislative Breakfast

Tech Tours

K-12 Outreach

Member Spotlight

ASCE Week Panama

Job Postings

Sponsors

Palm Beach Branch QUARTERLY

The background image of the cover is a photograph of a coastal scene. In the foreground, there are large, dark, jagged rocks partially submerged in the ocean. The water is a deep blue-grey color, and white foam from the waves is visible as they crash against the rocks. The rocks are covered in green and yellowish-brown algae or seaweed. In the background, a sandy beach is visible, with several people walking along the shoreline. The sky is a clear, pale blue.

PRESIDENT'S MESSAGE:

Palm Beach is off to a great start to 2019!

Greetings Palm Beach Branch members,

I hope everyone is off to a joyful new year! We here at ASCE Palm Beach have kicked off 2019 with a lot of activities and events, but before I update you all with that I want to first congratulate Madeley Arriola, our K-12 committee chair, for her recognition by ASCE as "[Top 10 New Faces of Civil Engineering Professionals in the United States](#)". We at ASCE Palm Beach are proud of her achievement and wish her the best of luck for the future.

Year 2019 has started off with some great start with events that have continued the traditions of the Palm Beach Branch in technical training, professional networking and community involvement. We started this year with several **great presentations** including "Five Fundamentals of Successful Land Rehabilitation" by Marc S. Theisen followed by "Going Deep: The SFWMD Estuary Protection Well Program" by Bob Verrastro and lastly "New Orleans Permanent Canal Closures and Pumps (PCCP)" by Dan Grandal.

On the technical institute front, we are excited to announce that our newly established Chapter of the **Geo Institute (GI)** in Palm Beach had its first technical presentation luncheon. Juan F. Castellanos, P.E., State Geotechnical Engineer for FDPT gave a presentation on the topic of "Foundation Design Considerations to Reduce Construction Problems" last month. We hope these events will serve to launch our Chapter as a prominent feature of our local community of geotechnical engineering professionals. On the **EWRI** front we had Deborah L. Drum, Director, Palm Beach County Environmental Resources Management (ERM) give an overview of Palm Beach County's Environmental Resources Management (ERM) Department and discussed updates to the Lake Worth Lagoon Management Plan.

In addition to the progress in our two institutes, our Young Member Coordinator Yehya Siddiqui recently held two technical field trips showcasing the **Riviera Beach Next Generation Clean Energy Center** and **Seacoast Utility Authority Hood Rd Water Treatment Plant**. Many thanks to Brent Whitfield, P.E. and Susan M. Coughanour, FAICP for organizing the annual **Legislative Breakfast** attended by more than 250 professionals from our community.

Our Vice President Tom Montano, Treasurer Teresa Chapman and our K-12 Outreach Coordinator

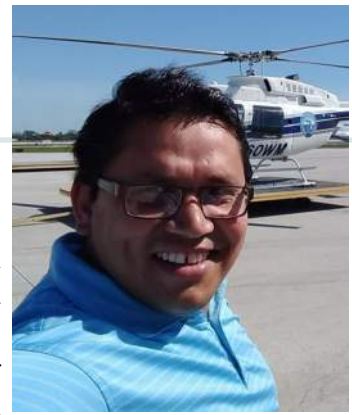
Madeley Arriola attended the **ASCE Multi-Regional Leadership Conference** in Orlando, Florida in January, where they were able to hone their leadership skills and learn about ASCE's many resources to help them serve effectively as leaders in ASCE.

The Branch also held its annual Joint Societies Holiday Party at the Beach Club at the Lake Worth Municipal Golf Course. This social event was attended by the members of several other local engineering chapters and branches. Thanks to great work done by ASCE & SWE volunteers at **Engineering Family Fun Day (EF2D)** we had over 160 kids come out to Dreher Park and had a fun day with engineering. I also appreciated the volunteers who helped at the annual **MathCounts** competition.

Our next few months should be very exciting as we continue to gather together to help our profession and our community. With the **Bowl-A-Thon** in March and [Engineers in Government Night \(EIGN\)](#) in April there will be a lot going on. EIGN will be especially exciting with Gerry O'Reilly, District IV Secretary Florida Department of Transportation as our keynote speaker. We are honored to host him at our event. EIGN is also the time of year where we recognize the best of our profession, with the Project, Engineer, Young Engineer, Employer and Government Engineer of the Year. We also plan on recognizing recent inductees into ASCE Lifetime Membership. Don't forget to submit your [nominations](#) and come out to support the honored recipients. We will also be giving 3 [scholarships](#) to deserving civil engineering student of Palm Beach County.

We are proud of the impact each of these events has on our profession and community. I look forward to seeing you in the weeks and months to come as we continue to uphold this tradition.

Sincerely,
Vijay Mishra, P.E.
Palm Beach Branch President



UPCOMING EVENTS:

Sat.
March
2

BOWL-A-THON

Cinebowl & Grill, Delray Beach FL
Saturday, March 2nd | 11:30 AM—3:30 PM
The event is all booked up...good luck to the bowlers!



Sat.
March
2

SECME Elementary Olympiad

Want to volunteer? [Click here](#)

Tue
March
12

Monthly Luncheon

Topic: PaveDrain
Location: PBC Vista Center Room 1E-58

Friday
April
5

31st Annual Engineers in Government Night

Lake Worth Casino Ballroom, Lake Worth FL
5:30 PM—8:00 PM | [Register Here](#) | [Sponsor Registration](#)

Sat
April
6

SECME Secondary (Middle/High School) Olympiad

Want to volunteer? [Click here](#)

Tue
April
9

Monthly Luncheon

Topic: TBD
Location: FAU

Friday
May
24

Tri-County Workshop

Long Key Nature Center
3501 SW 130th Ave Davie, FL

July
18-19

**2019 ANNUAL
ASCE Florida Section Conference**
Orlando World Center Marriott



31st Annual

[Register Here](#) | [Sponsor Registration](#)

Engineers in Government Night

EIGN has been held every year since 1988 to recognize the accomplishments and contributions of distinguished civil engineers in Palm Beach County. Consider nominating a person, project, or company for one of the following awards:

- **Engineer of the Year**
- **Government Engineer of the Year**
- **Young Engineer of the Year**
- **Project of the Year**
- **Employer of the Year**

Email nominations to tmontano@teamgfa.com



ENGINEERS IN GOVERNMENT NIGHT 2019

WHEN: April 5, 2019 5:30 to 8:00pm

WHERE: Lake Worth Casino Building, Ballroom

You are invited to an annual event that honors the accomplishments and contributions of engineers in public and private practice in Palm Beach County.

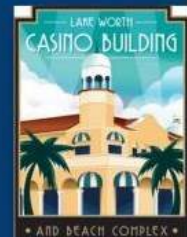
Presented BY:
The American Society of Civil Engineers, Palm Beach Branch



5:30pm to 6:30pm - Dinner Reception

6:30pm to 8:00pm - Guest Speakers and Awards Presentation

Cost to attend is \$25 per guest includes dinner and parking in a reserved section of the Lake Worth Casino Bldg parking lot.

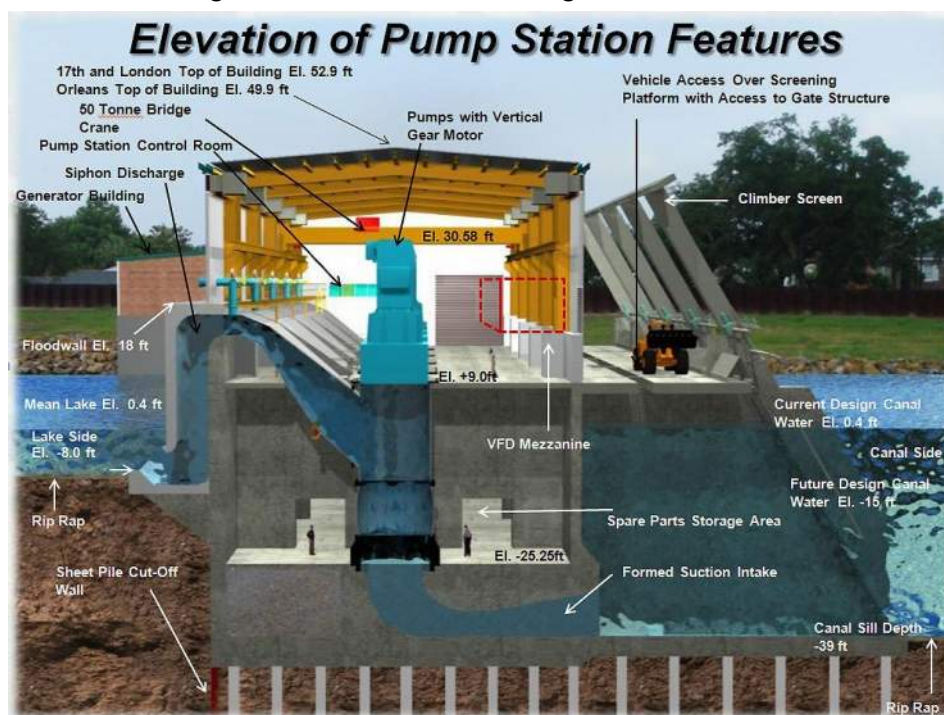


Contact Thomas Montano, P.E. at 772 204 4239 or tmontano@teamgfa.com
or Sponsorship Opportunities or Awards Nominations

New Orleans was devastated by Hurricane Katrina in 2005. In response, the U.S. Army Corps of Engineers embarked on the \$14.6 billion Hurricane and Storm Damage Risk Reduction system to repair the damage and improve resiliency for the city and surrounding communities. The final piece was the \$690 million Permanent Canal Closures and Pumps (PCCP) design-build project with Stantec as the lead design engineer and architect.

New Orleans Permanent Canal Closures and Pumps (PCCP)

There are three main drainage outfall canals in the City of New Orleans – 17th Street, Orleans Avenue, and London Avenue. These canals are a critical element of the flood control system, serving as drainage conduits for much of the city. This project provides a long-term solution for reducing risk from a 100-year storm event. The solution blocks Lake Pontchartrain surges, which can have wave heights of almost 14 feet, from entering the canals with 18-foot high barrier gates and pumps stormwater from each canal back into the lake. The pumps have a combined capacity of 24,300 cubic feet per second.



The massive pumps are powered by twenty-four, 2.6 megawatt generators backed up by six redundant units for a total of 78 megawatts across all three sites. The site layout maximizes the distance from existing structures and minimizes acoustic and visual impacts for surrounding neighborhoods. Critical equipment and infrastructure is indoors, buried, or located in hurricane rated enclosures for protection from flying debris. Over 600,000 gallons of diesel fuel and other critical backup utilities are provided on-site for operating the facilities at full capacity for five days.

About the Presenter:

Dan Grandal is a Professional Civil Engineer with over 24 years of experience. He is a resident of New Orleans and graduated from Tulane University. He is a Professional engineer in Florida and Louisiana, a Certified Floodplain Manager and a LEED Accredited Professional. The focus of his career has been in flood risk reduction and resiliency in geographical areas affected by sea level rise and climate change. His project experience includes large pumping stations, drainage master plans, low impact developments and other innovative storm water projects. He is a Senior Project Manager for Stantec Consulting Inc. and has recently worked on the New Orleans's Permanent Canal Closure and Pumps (PCCP), Hagan-Lafitte Green Infrastructure and Drainage and Blue Green Corridors.

[More about Dan](#)



GOING DEEP: The SFWMD Estuary Protection Well Program

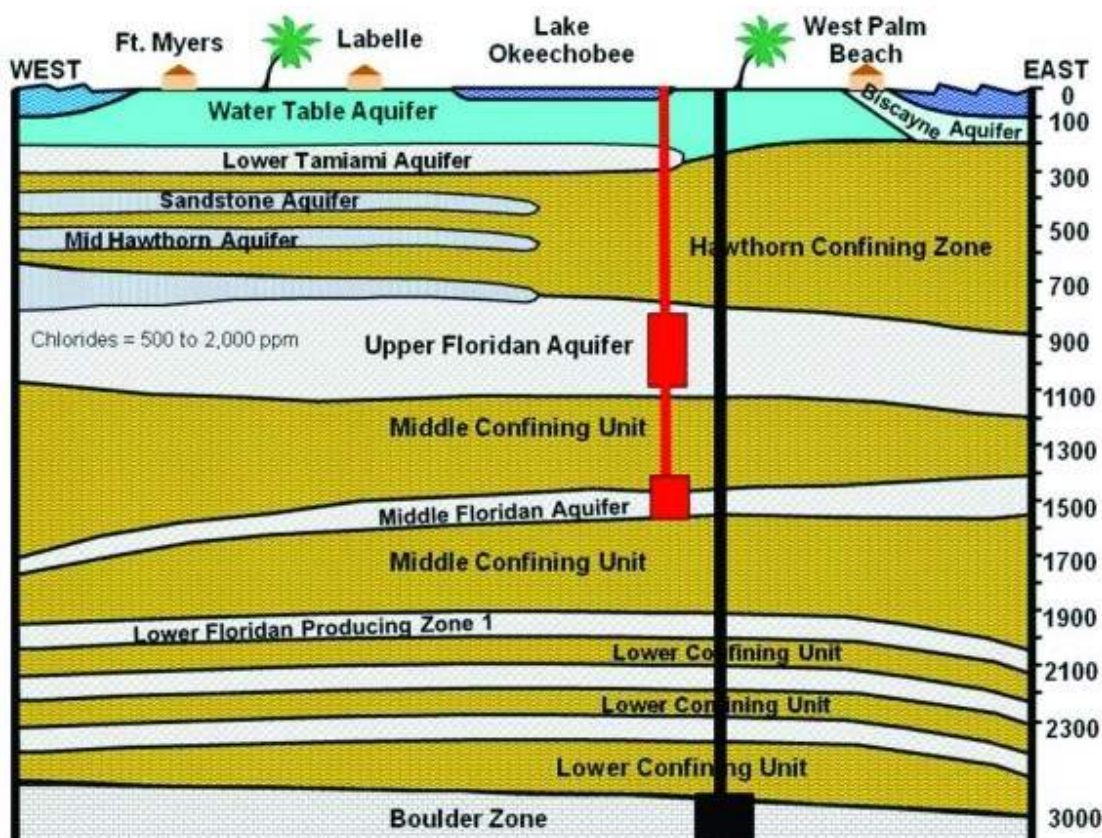
Could Deep Injection Wells Reduce Damaging Discharges to the St. Lucie and Caloosahatchee River Estuaries?

Deep injection wells have been used by utilities for decades throughout South Florida for wastewater disposal, but until recently, application of the technology as an environmental restoration and protection measure has not been considered.

The District's Emergency Estuary Protection Wells would pump excess water 3,000 feet underground into the "boulder zone." 30 to 60 wells, each pumping 15 million gallons a day, have been proposed.

This could dispose of 450 million to 900 million gallons per day. The wells would be used during events when Lake Okeechobee has risen so high that the U.S. Army Corps of Engineers has no other option but to release water from the lake to the coastal estuaries in order to protect residents surrounding the lake from flooding. The water injected using these wells would otherwise have been discharged to the estuaries, where it may cause ecological harm.

Later this year the SFWMD will begin construction of its first deep injection well for Lake O discharges. A \$7.2 million contract was recently awarded to Youngquist Brothers Inc of Fort Meyers to construct the first well, located slightly north of where the Kissimmee River enters Lake Okeechobee.



About the Presenter:

Bob Verrastro, Lead Hydrogeologist—Water Supply Bureau, SFWMD

Bob was born in Connecticut, raised in New Jersey, schooled in Louisiana, started his professional life as an exploration geologist in Texas, and has been working as a hydrogeologist in Florida for the past 30 years. Nearly all of his Florida experience has focused on construction and testing of large diameter, deep wells for water supply, recharge, injection and recovery. For the past 19 years, Bob has worked at the SFWMD managing the Aquifer Storage and Recovery (ASR) projects associated with the greater Everglades Restoration.

5 FUNDAMENTALS OF SUCCESSFUL LAND REHABILITATION

A proven and holistic approach to stabilize your sites via the establishment of sustainable vegetative cover. Read more below about the 5 Fundamentals™ from [Profile's website](#).



1. Assessing & Creating Optimal Soil Conditions

Soil testing provides essential information to determine what adjustments, if any, need to be made to assure a more favorable growing environment for faster, more complete vegetative growth and sustainable establishment.

Profile provides [FREE](#) soil testing to help you create the foundation for success you need.



2. Picking the Right Plant Species

It is essential to select plant species that are adapted to project locations, site conditions, intended use, project seasonality and maintenance requirements. Profile and your distributor will put you in touch with agronomy experts who are qualified to help you select the right plant species to meet the needs of your projects.



3. Selecting the Correct Erosion Control Material

The right cover is necessary to protect both seed and soil, taking into account the erosion control product's effectiveness, ability to facilitate growth and the functional longevity required for that protection. Profile is the leading supplier of hydraulically applied erosion control technologies, erosion control blankets and turf reinforcement mats; and as a result, is experienced in helping you balance natural variables and product attributes to effectively achieve project success.



4. Ensuring Proper Installation

Installing the agronomic additives and erosion control products in accordance with the manufacturer's mixing and application guidelines will maximize their performance to meet project requirements. Profile provides on-site consultation to assure the products you select are properly installed in accordance with all guidelines.



5. Follow-up Inspections and Maintenance Practices

Continually monitoring how projects are progressing is the best way to make sure all site requirements and compliance issues are being addressed. Maintenance may be required to mitigate unexpected challenges. Profile professionals can coordinate all inspections. Subsequent inspections can be arranged and maintenance activities conducted after significant precipitation or other potentially damaging weather events.



About the Presenter:

Marc S. Theisen, M.Sc., CPESC, CPSWQ, CESSWI

Vice President of Business Development and Technical Services, Profile Products, LLC, of Buffalo Grove, Illinois, USA.

Marc is a Certified Professional in Erosion and Sediment Control (CPESC), Certified Professional in Storm Water Quality (CPSWQ) and Certified Erosion, Sediment and Storm Water Inspector (CESSWI) with over 25 years of experience in erosion/sediment control and storm water management on six continents.



GEO INSTITUTE



Thank you Juan F Castellanos, P.E., State Construction Geotechnical Engineer, FDOT for presenting at our first ever GI luncheon!



EWRI

An Overview of Palm Beach County's Environmental Resources Management (ERM) Department with a focus on the update to the Lake Worth Lagoon Management Plan

Palm Beach County has overseen restoration projects in the Lake Worth Lagoon (LWL) since the early 1990's, including both large scale island restoration and smaller scale shoreline enhancement projects. [Read more about PBC's ERM here](#)



Thank you Deborah L. Drum, Director, Palm Beach County Environmental Resources Management (ERM) for presenting at the EWRI luncheon this quarter!



Learn more about ERM and join in celebrating PBC's natural areas—in person!—by stopping by the 2019 Natural Areas Festival. [More info here](#)

JOINT PROFESSIONAL SOCIETIES 2019 LEGISLATIVE BREAKFAST

The Legislative Breakfast was once again a big success! We had over 200 professionals in attendance (and a few school children, since it was “Bring your Child to Work Day”). The Legislators that attended included Senator Bobby Powell, Senator Lori Berman and Representative Toby Overdorf. There were several discussion topics regarding licensure regulations, infrastructure spending and home rule. There was also significant interest regarding the upcoming Legislative Session with a new Governor’s administration and new leadership in both the House and the Senate.



Susan Coughnour from the Planning Congress, Adam Schildmeyer from FES and Brent Whitfield from ASCE were the primary hosts and facilitated the discussion. Because next year’s Legislative Session will be early, we expect next year’s breakfast to be in November 2019.

TECH TOURS

FPL Riviera Beach Next Generation Energy Center



- ◆ Combined-cycle natural gas plant
- ◆ \$1.3 billion construction cost
- ◆ 1250 MW (250,000 homes)
- ◆ 3 combustion & 1 steam turbine (Waste heat from natural gas turbines powers a steam engine)
- ◆ Uses U.S.-produced natural gas
- ◆ 60% efficiency—this plant is ~33% more efficient than the 1960s-era oil-and-gas plant that it replaces
- ◆ Tour led by Plant Manager Nick Campbell

Seacoast Utility Authority Hood Road Membrane Water Plant



Rob David, SUA operator, conducted the tour of the 35 MGD plant which includes 2.5MGD low pressure reverse osmosis (LPRO) and 32.5MGD nanofiltration (NF). Water for NF is pulled from 36 shallow wells (~175 feet deep) and water for LPRO from additional deep Floridan aquifer wells. LPRO concentrate is injected into the boulder zone while NF concentrate travels 7 miles to the wastewater treatment plant where it is reclaimed.

Above: Filmtec membranes have been in operation for 5 years

Right: Tour group in front of the 190-foot tall, 750K gallon water tower

