



# CAROLINAS ENGINEERING

## CONFERENCE & TRADE SHOW

**Hilton Myrtle Beach Resort  
Myrtle Beach, South Carolina  
June 7 - 9, 2018**



The SC Engineering Conference & Trade Show takes on a larger identity for its 11th year. Since the Professional Engineers of North Carolina joined the conference, it is now the CAROLINAS ENGINEERING CONFERENCE & TRADE SHOW. South Carolina welcomes our Tar Heel partners with the anticipation that this year is going to be memorable.

Although the name has changed, the conference's mission remains "timely presentations on various engineering subjects, keynote presentations and enough professional development hours to substantially meet the annual requirement." Additionally, the conference offers a trade show where products and services engineers use directly or specify are offered with knowledgeable representatives to assist you. This year's trade show is sold out.

Conferences are always about more than technical programs and trade shows; the 2018 Carolinas Engineering Conference also realizes the importance of opportunities to meet and converse with fellow professionals. An exhibitor reception on Thursday evening serves as a networking opportunity between engineers and exhibitors. Session breaks, lunches and the banquet are also great times for meeting and talking with fellow professionals.

Engineers attending the conference June 7-9 at the Hilton Myrtle Beach resort may gain up to 15.5 PDHs and choose from a variety of more than 40 programs.





# CAROLINAS ENGINEERING CONFERENCE & TRADE SHOW

The 2018 Carolinas Engineering Conference is offering 15.5 PDHs. For attending a program in every time slot you can accumulate 15 PDHs of the 15 required annually.

## THURSDAY - June 7, 2018

4.5 PDHs Available for the Day

7:00 AM - 5:00 PM ..... Registration

8:00 AM - 11:00 AM ..... (1 PDH)

### Tour of Rinker Materials Concrete Pipe Plant, Aynor, SC

Rinker Materials is a leading manufacturer of concrete pipe (including elliptical), precast box culverts, and the Stormceptor throughout the United States.

Constructed in 1998, the facility was shut down during the recession in 2008, but was brought back on line in 2018. Using drycast production methods along with Packerhead machinery, the facility produces pipe diameters from 15" to 36". It can produce both T&G as well as rubber gasket joints. The plant is NCDOT, SCDOT and ACPA Q-Cast Certified. The processes are controlled and facilitated using advanced robotics, including cage welding machinery, and an automated wire drawing station.

**"This is an operational plant and safety is our number one priority." Personal Protection Equipment (PPE) will be provided at the plant; however, participants should have long pants and appropriate hard soled footwear (no tennis shoes, flip flops or sandals).**

\*\*\*You must register separately for this event. If there are less than 20 registrants, the plant tour will be canceled. You will be notified in advance of the cancellation.\*\*\*

\*\*\*You must register for this event by 5:00 PM on June 1, 2018\*\*\*

Parking for the tour is offsite. Transportation to and from the Hilton Myrtle Beach Resort IS NOT provided. You must provide your own transportation.

You must follow these instructions:

Meet at Aynor High School with Transportation to and from the plant. Aynor High School Address: 201 Jordanville Rd, Aynor, SC 29511 Bus will leave at 8:30 AM at the latest. If everyone is at the high school early, the bus will proceed to the plant. If you are not there by 8:30 sharp. Don't miss the bus. Even if you have RSVP'd for the tour, if you miss the bus, you have missed the tour.

8:30 AM - 10:15 AM ..... SCSPE Board & Annual Meeting

8:30 AM - 10:00 PM ..... ASCE-SC Board Meeting

10:30 AM - 12:15 PM ..... ACEC-SC Board & Annual Meeting

10:30 AM - 12:00 PM ..... PENC Board Meeting

11:15 AM - 1:15 PM ..... Lunch

12:00 PM - 6:00 PM ..... Trade Show

1:00 PM - 2:15 PM ..... (1 PDH)

Engineers Registration Board Panel Discussion and Updates  
SC State Board of Professional Engineers and Land Surveyors  
NC Board of Examiners for Engineers and Surveyors

2:25 PM - 2:55 PM ..... (.5 PDH)

SCDHEC Update

2:55 PM - 3:10 PM ..... Break

3:10 PM - 4:00 PM ..... (1 PDH)

SCDOT & NCDOT Update

4:10 PM - 5:00 PM ..... (1 PDH)

Charleston Port Update  
Jim Van Ness, PE, SC Ports Authority, Director of Engineering

5:00 PM - 6:00 PM ..... Trade Show Reception

Dinner on Your Own

## EDUCATION SPONSOR

SC State Board of Registration for  
Professional Engineers and Surveyors



## SILVER SPONSORS



## FRIDAY - June 8, 2018

7 PDHs Available for the Day

7:00 AM - 5:00 PM ..... Registration

8:00 AM - 4:00 PM ..... Trade Show

8:00 - 8:50 AM .....(1 PDH).....CONCURRENT SESSIONS

### CIVIL TRACK

#### Why Can't We Use a Pond

Michael Barnes, PE, Oldcastle Precast, Inc.

*With increased urbanization and the cost of land skyrocketing, the days of using above-ground stormwater management basins in urban areas are disappearing. It's important to understand underground stormwater storage and treatments systems' are necessary for today's development. However, each municipality has unique requirements, which greatly impacts your design choices. It is better if the designers truly understand the Pros and Cons for each type of system for true structural capacity, footprint, constructability and longevity for project, and who is responsible should the system fail. This presentation will take an in-depth look at the use of various types of underground detention systems and treatment solutions germane to the markets; How are they designed/constructed and discuss the method that produces the most reliable and construction sensitive designs.*

### ENVIRONMENTAL TRACK

#### A Market Approach to Water Reuse

Michael Gallant, PE

*Three different models of monetizing reuse water will be discussed.*

*1. Sale of groundwater to the general public through metered connections and a distribution system. 2. Sale of groundwater to a single municipal entity as a bulk resource. 3. Sale of groundwater to a single home owner's association (HOA).*

*These models are based on setting rates for reuse water at 50% to 75% of potable water rates. This pricing gives the end user a financial incentive to use reuse water for non-potable uses such as irrigation.*

### GENERAL BUSINESS TRACK

#### Risk Management

Stephanie Burton, JD, Gibbs & Burton

### GEOTECH TRACK

#### Mission Hospital Project, Asheville, NC

Jesse Jacobson, BLE

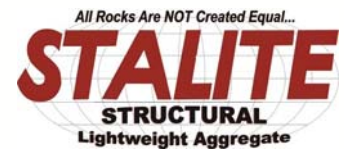
### STRUCTURAL/FORENSIC TRACK

#### Forensic Engineering, Analysis of a Shopping Mall Explosion

Jerry Tindal, PE, SAFE Laboratories & Engineering Corp.

*Proper engineering design involving underground utilities is an important aspect of fire and life safety. In 2009 a catastrophic explosion occurred at a shopping mall located just outside of Washington, D.C. As a result of the explosion several persons, including multiple firefighters were injured and a large portion of the mall was destroyed. This presentation examines the cause of the explosion.*

## BRONZE SPONSORS



## TRANSPORTATION TRACK

### Geophysical Elements for Roadway Settlement and Voids

Ed (Ned) Billington, PG, ESP Associates, P.A.

*Subsurface voids and roadway settlement can have a number of causes, such as broken or blocked storm drains, limestone dissolution (karst), inadequately compacted fill, or poor fill materials. Voids often develop to significant size before collapse, presenting a potential hazard to vehicle traffic. This presentation will provide examples of non-intrusive investigations used to evaluate roadway voids and settlement issues. Examples include a study of a sinkhole caused by possible karst activity, an emergency investigation of a void caused by a blocked storm drain, mapping of a depression probably caused by poor fill, and investigation of sinkholes caused by underground mining activity. Methods discussed will include ground-penetrating radar (GPR), 2D resistivity imaging, micro-gravity, surface wave seismic, and mobile LiDAR.*

8:00 AM - 9:50 AM ..... (2 PDH)

## FIRE/LIFE/SAFETY TRACK

### High Challenge Problems and Atypical Solutions-A Fire 2,150 underground

Bernie Till, Bernie Till & Associates

8:00 AM - 10:00 AM ..... (2 PDH)

## ELECTRICAL TRACK

Johnston Peebles, PE, PhD, The Citadel, Professor, Electrical Engineering

9:00 - 9:50 AM .....(1 PDH).....CONCURRENT SESSIONS

## CIVIL TRACK

### Evaluation of SCDOT Roads Over Privately Owned Earthen Dams

Jim Devereaux, HDR

## ENVIRONMENTAL TRACK

### Improving the Dredging Process: Pre and Post-Construction Sediment Mapping Combined with Innovative methods of Sediment Removal

Mick Rebaux, Dragon Fly Pond Works

*Problems associated with sedimentation of lakes and ponds are well documented, and most ponds will require some level of sediment removal over their lifespan. As sediment removal projects arise, Requests for Proposals (RFP's) for dredging are often vague and lack standardized methods for quantifying material. Lake owners and managers commonly generate RFP's that indicate a specific quantity of material to be removed (generally expressed in cubic yards). However, actual amounts can be difficult to verify and quantify. This presentation emphasizes the importance of establishing and incorporating standard methods for quantifying sediment volumes on large-scale dredging projects. This presentation will explore ideas for improving RFP's, as well as ways to accurately measure a contractors' success post-construction using lake mapping software.*

*Conventional dredging typically involves use of excavators and heavy equipment to remove sediment. In some cases, this material can be utilized or blended into existing grades on site but generally the material is hauled off site for disposal. In some cases, hydraulic dredging can provide advantages over conventional excavation, especially at sites where dewatering is a challenge and truck and equipment access is limited. Hydraulic dredges pump material to a series of geotextile tubes or bags for de-watering.*

*Repair of eroded shorelines can also be accomplished by hydraulic dredging, thus saving on hauling and disposal costs. In this application, geotextile tubes are anchored along the shoreline and filled with pond sediment. Once suitably drained, the material can be blending into existing grades and the areas planted.*

## GENERAL BUSINESS TRACK

### Risk Management & Professional Liability

Karen McCabe, IMCI

## THURSDAY LUNCH SPONSOR



## FRIDAY LUNCH SPONSOR



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## GEOTECH TRACK

Bonner Bridge Foundation Design and Testing  
Scott Webster, GRL Engineers & Michael Batten, HDR

## STRUCTURAL/FORENSIC TRACK

Forensic Engineering Analysis - Apartment Building Explosion Involving  
Flammable Refrigerant  
Jerry Tindal, PE, SAFE Laboratories & Engineering Corp.

*The use of flammable refrigerants is an area of increasing engineering interest in recent years and will continue to be so for the foreseeable future. The forensic engineering case study presented examines the origin and cause of an apartment building explosion involving flammable refrigerant that, in addition to the property damages, resulted in serious burn injuries to an occupant.*

## TRANSPORTATION TRACK

Underwater Bridge Inspection  
Jeff Rowe, PE and Aaron McHan, PE, Infrastructure Engineers, Inc.

**10:00 AM – 10:50 AM .....(1 PDH).....CONCURRENT SESSIONS**

## CIVIL TRACK

Merging Survey Data from Multiple Collection Platforms  
Allen Brock, CP, PLS, GISP, GPI, Geospatial

*This course pertains to merging data collected from various survey platforms, in that it instructs and informs the attendee of the various platforms, challenges and advantages, accuracy analysis, project coverage (including potential gaps and overlaps), data merging and seamless product delivery.*

## ENVIRONMENTAL TRACK

Northern Long-Eared Bat Survey in SC  
Michael Zavaslak, NRCC-EAC, CHMN, CIH, PE, Summit

*This presentation will focus on bats survey for the Northern Long-Eared Bat (NLEB). The first part of the presentation will cover the history of White Nose Syndrome (WNS) and its impact on the NLEB. The range of the NLEB and its effects in South Carolina and necessity. The second portion will cover a survey conducted in 2017 at a federal facility along the Savannah River. The presentation will cover the background of the site, site conditions and layout. We will cover the US Fish and Wildlife Service bat capture guidelines and the South Carolina Department of Natural Resources bat capture guidelines, with regards to the 2017 Range-Wide Indiana Bat Summer Survey Guidelines. In addition, we will cover the logistical challenges for capturing and tagging all bat species encountered.*

## FIRE/LIFE/SAFETY TRACK

What Could Go Wrong with Fire Protection Services  
Ralph Foster, PE, Foster Engineering & Consulting, LLC

## GENERAL BUSINESS TRACK

Emotional Intelligence For Engineers  
Susan Habina Wollard, PE and Sean Gleason, PE

*We will discuss emotional intelligence for engineers with the added perspectives coming from a government engineer and a private consultant. Emotional intelligence will be defined and keys to being an excellent leader identified. We will describe the components that make up emotional intelligence including emotions, feelings and moods. Using interactive exercises with attendees, we will explore constructive emotions and destructive emotions. We will identify how and when they are helpful and unhelpful in the workplace, how to recognize them in others, and how to influence or defuse them as needed. The exercises and lecture will be a step towards a better understanding of these soft skills that separate great leaders from just the boss.*

## TRADESHOW PARTICIPANTS



## GEOTECH TRACK

Georgetown Karst Problems  
Steve Geiger, ECS

## STRUCTURAL/FORENSIC TRACK

A Little Water Can Do a Lot of Damage

James (Jim) Justus, PE, F NSPE, Mosaic Engineering and Consulting

*A little water leaking over a long term can do significant damage. This presentation will summarize a project where small leaks over a long time frame caused significant structural damage, resulting in replacement of large steel sections in difficult spaces. In addition, the project included waterproofing repairs to the plaza above. The presentation will cover the repair analysis and construction issues, waterproofing issues, stone plaza replacements, and miscellaneous other related topics. Hopefully, a lesson to everyone who attends about the impacts of long term water penetration into structural systems.*

## TRANSPORTATION TRACK

Black to Basics - Asphalt Inspection

Jayson Jordan, PE, SCAPA, Technical Director

**11:00 AM – 11:50 AM ..... (1 PDH) ....CONCURRENT SESSIONS**

## CIVIL TRACK

Flood Mitigation

Zach Faulkner, SmartVent

## ENVIRONMENTAL TRACK

EPA Current Enforcement Trends

Ethan Ware, JD, Williams Mullen

## FIRE/LIFE/SAFETY TRACK

Specialty Valves for Fire Protection

Brian Berkley, Viking Corporation

## GENERAL BUSINESS TRACK

Driving Economic Growth in SC - Volvo

John Culbreath, PE, Thomas & Hutton

*Thomas & Hutton laid the groundwork for Volvo's first American manufacturing facility in Berkeley County, SC to develop an industrial region that will impact Berkeley County beyond the first tenant. A thick timberland forest site of over 6,000 acres was configured for future industrial development. The initial investment by the County and State will grow the region and economy and create thousands of jobs over the next few years. Thomas & Hutton graded the site and prepared temporary services needed for construction. With the expected regional impact, adjacent multi-lane roadway improvements were designed and approved by local, state, and federal agencies, along with permanent water, sewer, and storm drainage improvements to support Volvo and future industrial developments. Berkeley County's expectation was for Thomas & Hutton to uncomplicate a project of this magnitude with an aggressive timeline. Multiple teams working in phases, while responding to three damaging weather events that included a historical flood event, was very challenging. Teamwork, creativity, and communication was paramount for keeping the schedule on time and constructing a successful project.*

## GEOTECH TRACK

Columbia Baseball Stadium

Adam Shannon & John Hamilton, F&ME

## TRADESHOW PARTICIPANTS



## STRUCTURAL/FORENSIC TRACK

### AirTran JFK - The Longest Segmental Girder Construction Erected in the New York City Environs

Henry W. Hessing, PE

*The \$ 1.9 Billion Airport Access Project connects John F Kennedy International Airport (JFKIA) located in Jamaica, New York with two major intermodal connections -Long Island Rail Road (LIRR) and New York City Transit (NYCT).*

## TRANSPORTATION TRACK

### The Nexton Parkway Exchange

John Walsh, PE, Michael Baker International

### 12:15 - 1:50 PM .....KEYNOTE ADDRESS

#### Augusta Canal - What Makes This a Civil Engineering Historic Landmark Still in Use

Mark W. Lorah, PE, FLASK, Johnson, Laschober & Associates, P.C.

*The Central Savannah River Branch of the South Carolina Section of ASCE submitted the Augusta Canal for National ASCE Historic Landmark designation. The National ASCE Committee on History and Heritage recently approved it and the presentation of the Plaque is anticipated in June 2018.*

*This presentation will provide a brief history of this canal which was designed and constructed in 1844 and is still in use. The presenters will emphasize the uniqueness of this design for its time and what has made it so successful over its 174-year life. The role of the city planners as well as the key designer/surveyor in defining this, the engineering challenges and the robustness of the design will be emphasized.*

*The Augusta Canal has been continuously under the direction of civil engineers for all three of its original purposes from the time of its original conception, design and construction (1844) through the present time (2018), including planning, engineering, designing, building, operating, and managing.*

*The upgrades of the canal over the last 174 years will be discussed as well it continues to support the City of Augusta through Power production, water control and more recently recreation. This includes elements of the headwater that have been in continuous use for over 170 years and what the future holds for this canal and its headwater structure. The presentation will include extensive photographs, particularly of the headwater and power generation structures, as well as examples of some of the original documentation.*

*At the end of the presentation, the presenters will also summarize what was involved in developing the package to allow this key engineering heritage site to be recognized as well as how groups can find out more about the design and engineering challenges.*

### 2:00 PM - 2:50 PM ..... (1 PDH) .....CONCURRENT SESSIONS

## CIVIL TRACK

### Muscle Wall Flood Protection and Containment

Steve Neschleba, Muscle Wall

*There is an increasing requirement for flood barrier innovation and technology due to severe and changing weather patterns. Muscle Wall is an innovative re-usable solution that can be rapidly deployed with little to no equipment and can protect infrastructure such as buildings, pump stations and electrical substations. Muscle Wall can also help mitigate and comply with storm water regulations and is used in the gas and oil industry for primary/secondary containment.*

*The Muscle Wall system can withstand immense force of rushing or standing water due to its patented toe design. The pressure of the water forces the toe downward, thus overpowering the hydrostatic force, which anchors the wall to the ground.*

## ELECTRICAL TRACK

### Seismic Provisions - Will the Lights Come Back On?

Phillip Caldwell, Schneider Electric

## TRADESHOW PARTICIPANTS



## ENVIRONMENTAL TRACK

### Designing Vapor Intrusion Mitigation Systems (VIMS) to Depressurize Low Permeable Soils

Thomas Hatton, Clean Vapor

*Designing efficient Vapor Intrusion Mitigation Systems (VIMS) to mitigate buildings constructed over low permeable soils requires an understanding of the complex variables that induce Vapor Intrusion coupled with precision under-slab pressure field extension testing. These buildings are the least understood and can present the greatest design and installation challenges. The presentation will share the diagnostic and design methodology as well as how integrating response driven remote management technology can optimize efficiency, provide assured performance and reduce operational costs. We will explore the benefits of remotely managed mitigation systems, automated fault notifications and the online management tools that improve system performance and streamline client and regulator reports. The presentation will include a case study of a recently mitigated North Carolina manufacturing building where we will demonstrate the relationship between low permeable soils, weather induced pressure variables, the application of dynamic motor technology, and the resultant cost savings that can be realized.*

## GENERAL BUSINESS TRACK

### Data Analytics: Saving More than Energy

Kevin Day, PE, CEM, CCP, LEED AP, GGP and James Mascaro, PE, CCP, MBP

*Building automation systems are collecting and storing massive amounts of data. Reviewing that data typically involves downloading trends from the previous 30 days, converting the data into a plottable format, and expending countless hours of engineering analysis. As a result, other than system failures and hot/cold calls, poor system performance does not get identified for two or three months after an issue arises.*

*Data analytics accesses and evaluates big data within the building automation system in real time. See how Big Data was used to defend a design firm from a \$1 million claim, and how data analytics could have prevented the claim from occurring. Learn how to leverage data analytics to prioritize your maintenance work orders so that your limited resources can be focused more on resolving critical performance issues, and less time treating the symptoms. Understand how energy managers can utilize data analytics to track energy metrics as well as fine tune system performance through real time trend analysis.*

## GEOTECH TRACK

### Hugh Letherman Terminal

Ryan Keiper, Terracon

## STRUCTURAL/FORENSIC TRACK

### Understanding the Challenges of Mid-Rise Wood-Frame Construction

Derek A. Hodgkin, PE, Construction Science and Engineering, Inc.

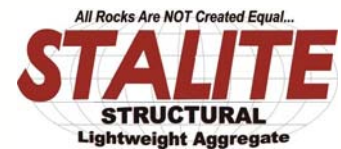
*Recent changes in the building code helped fuel the current surge in mid-rise wood frame construction projects. Over the past several years, there has been an increasing number of water intrusion claims in relatively new mid-rise wood frame buildings. While the code requires the building envelope to provide protection from the weather, it does not provide the details necessary for designers and/or contractors to meet this requirement. Typical construction details, that have had limited success on 1 to 3 story wood frame buildings, are even more problematic on taller buildings. Specifically, vertical and lateral movements, caused by frame compression, shrinkage, external loads and material incompatibility, can compromise the function of flashing and waterproofing details. Differential movements between the wood framing and exterior cladding components can cause physical damages to building envelope components that increases the extent of water intrusion. Once the water reaches the wood framing components, significant damages such as rot, corrosion and mold can result. Additionally, once compromised, the effectiveness of products used to meet fire resistance requirements is unknown. If our design and construction of the building envelope does not incorporate "best practices", mid-rise wood frame buildings may become the "black eye" of the construction industry.*

## TRANSPORTATION TRACK

### Carolina Crossroads

Brian Klauk, PE & Ladd Gibson, PR, SCDOT

## TRADESHOW PARTICIPANTS





2:00 PM – 3:50 PM .....(2 PDH)

### FIRE/LIFE/SAFETY TRACK

The Secret Life of Fire Department Connections: Parts 1 & 2  
Robert O'Neill, SRS

3:00 PM – 3:50 PM..... (1 PDH) .....CONCURRENT SESSIONS

### CIVIL TRACK

Hard Armor Erosion Alternatives-Reinforced Grass  
Joe Church, PE, Low and Bonar

*Have you ever specified a Turf Reinforcement Mat (TRM), only to find no grass would grow on it? As site preparation technologies evolve and provide engineers and contractors more alternatives for establishing grasses on jobsites, the combination of Turf Reinforcement Mat (TRM'S) and hydraulically applied mulches have set themselves apart as the premier weapon against erosion. These products not only allow vegetation, but enhance vegetation when properly specified and applied. This presentation will cover the basics of TRM's applied with hydraulic mulch, and is divided into the following 3 sections:*

*Part 1: A primer on hydro mulch TRM applications, including advantages, disadvantages, and installation techniques.*

*Part 2: What characteristics in a TRM make for a great infill product, and how can other tools enhance selection.*

*Part 3: We will explore real life applications (Case Studies) and lessons learned.*

*Attendees will learn the basics of hydro mulch TRM applications, how to plan, design and execute these applications, and what to expect from a performance perspective*

### ELECTRICAL TRACK

Energy Efficient Lighting: It Depends  
M.K. Baldwin, PE, Retired

### ENVIRONMENTAL TRACK

Histories Mysteries-Why Projects Sometimes Require Cultural Resource Surveys  
Kimberly Nagel, S&ME

*Have you ever wondered why some of your projects require State Historic Preservation Office (SHPO) consultation and others don't? In this session, Kimberly will answer that question and others regarding cultural resources, the Section 106 process, and how it relates to your projects. She will discuss the different types of surveys used and what the results of those surveys mean as it relates to project development and overall timelines; the process of consultation with state and federal agencies regarding cultural resources; what can be done to streamline the cultural resource process, making it relatively painless; and what should be done to avoid significant delays associated with cultural resources and/or consultation with state and federal agencies.*

### GENERAL BUSINESS TRACK

TBA

### GEOTECH TRACK

Thermal Integrity Profiling for Drilled Shafts  
David Schoen, Terracon

### STRUCTURAL/FORENSIC TRACK

Unique Structural Engineering to Support Restoration of the Historic Miller Theater  
Mark W. Lorah, PE, FLASK, Johnson, Laschober & Associates, P.C.

## TRADESHOW PARTICIPANTS

If you are interested in becoming a Tradeshow Exhibitor, please use the link below:

[Tradeshow Exhibitor](#)

## TRANSPORTATION TRACK

TBA

4:00 PM ..... Trade Show Closes

4:00 – 5:00 PM ..... Work Life Balance  
Women in Engineering

6:30 PM ..... Reception

7:00 PM ..... Awards Banquet

### SATURDAY - June 9, 2018

4 PDHs Available for the Day

7:00 AM - 12:00 PM ..... Registration

7:30 AM - 8:30 AM ..... Break

#### 8:00 AM – 12:00 PM ..... (4 PDH) ..... CONCURRENT SESSIONS

8:00 AM - 8:50 AM ..... (1PDH)  
Innovative Solutions in Vegetation Establishment and Erosion Control  
Melanie Fuhrman, Profile Products LLC

9:00 AM - 10:20 AM ..... (1.5 PDH)  
Pipe Installation & Inspection Milestones  
Al Hogan, Tiffany Ferrell, Rinker Pipe

10:30 AM - 12:00 PM ..... (1.5 PDH)  
Pipe Fundamentals & Design of Reinforced Concrete Pipe  
Al Hogan, Tiffany Ferrell, Rinker Pipe

#### 8:00 AM – 12:00 PM ..... (4 PDH) ..... CONCURRENT SESSIONS

8:00 AM - 9:50 AM ..... (2PDH)  
Leadership Institute Presentations  
Sean Gleason, PENC

10:00 AM - 10:50 AM ..... (1 PDH)  
Building Envelope Evaluations - Uncovering the Source and Cause of Moisture  
Intrusion, Paint Failures, and Poor Energy Performance  
Terry Carroll, P.E. - KTA-Tator, Inc.

11:00 AM - 11:50 AM ..... (1 PDH)  
3-D Above Ground and Below Ground Deliverables for Subsurface Utility  
Engineering (SUE)  
Matthew J. Wolf, GEL Geophysics

## REGISTRATION INFORMATION

### Registration Rates

Thursday Only ..... \$108.00  
Full Conference ..... \$350.00  
Thursday/Friday ..... \$265.00  
Friday/Saturday ..... \$288.00  
Friday Only ..... \$175.00  
Saturday Only ..... \$96.00  
Spouse/Guest ..... \$150.00  
Banquet Only ..... \$85.00

### REGISTRATION DEADLINE - **JUNE 1**

To Register for the  
Conference click on the  
link below:

[Conference Registration](#)

## HOTEL INFORMATION

Hilton Myrtle Beach Resort  
10000 Beach Club Drive  
Myrtle Beach, SC 29572-5304  
Phone: 843.449.5000

[Hilton Registration](#)

### Alternate Hotel

Courtyard by Marriott  
Barefoot Landing  
1000 Commons Boulevard  
Myrtle Beach, SC 29572  
843-361-1730

[Marriott Registration](#)

## CONTACT INFORMATION

SC Engineering Conference  
Post Office Box 11937  
Columbia, SC 29211  
Phone: 803-771-4271  
Fax: 803-771-4272

Email:

[info@scengineeringconference.org](mailto:info@scengineeringconference.org)