

North Carolina Chapter News

VOLUME 34 | ISSUE 43

JUNE 21, 2021

IN THIS ISSUE

- PRESIDENTS' MESSAGE
- PARTNER FEATURE

 Easier Than
 Jackhammering":
 Privately Owned South
 Walton Utility Saves Time
 Labor With Adjustable
 Manhole Risers
- Soil Data for Mapping and Analysis and ArcGIS — Jason McMahon, GISP
- PARTNER FEATURE
 Hurricane Debris
 Monitoring Summit
 Design and Engineering
 Services
- PARTNER FEATURE
 Mapping the Future of
 Yates Mill County Park —
 WithersRayenel
- OPPORTUNITIES TO SERVE
- Young Professional
 Spotlight: Laura Wilson
- WELCOME NEW MEMBERS

President's Message



reetings friends and fellow Public Works Professionals! Spring is a time of new beginnings and 2021 is moving ahead full steam. I am excited to see that many people are getting vaccinations and I am hopeful that our communities, our state, our nation, and our planet will soon settle into something normal. I do not anticipate our old normal, but a new normal that represents our solidarity and our resiliency that will lead us to a promising future.

In the very near future we plan to return to in-person conferences and meetings. This will be exciting, as many of us miss the personal interactions with our friends and colleagues, our APWA family. Conferences may look and feel a little differently as there continue to be guidelines and social protocols to protect attendees and staff. The day of the mask is not behind us. I encourage each of you to continue your practice of social distancing and to don your masks out of respect for peers who may not be so confident and may be unvaccinated.

National Public Works Week was May 16-22, and I hope each of you were able to celebrate with your teams, even if remotely. We set aside this week to honor each other and the professionals who have dedicated their careers to building, improving, and maintaining our built environment. Governor Cooper signed a proclamation recognizing National Public Works Week in North Carolina, and many of you have proclamations from your towns recognizing the week as well. Thank you all for everything you do, every day you do it, in every way you do it!

I hope you are settling into your new normal and are excited about the opportunities ahead.

Be kind! Show respect! Change the world!

Christopher W. McGee, MPA, PE

APWA-NC President

AMERICAN HIGHWAY PRODUCTS

RAISING AMERICA, ONE INCH AT A TIME

THE MOST EFFICIENT, POWERFUL EXPANDING RISER AVAILABLE. REDUCE YOUR RESURFACING COSTS.

Accommodates all Diameters. 1"diametric variance.

Available in heights of 3/4" and up with remarkably durable construction and tremendous staying power.

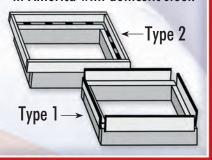
Simple, one-piece assembly allows for quick installation.

INCLINED RISER. Now you can RAISE & TILT the manhole cover.



CATCH BASIN RISERS

Fabricated to your specifications in America with domestic steel.



SAFETY RAMPS

Save money! Eliminate claims!
Protect motorists from
transverse milled edges or
steel utility plates.



MANHOLE SAFETY RAMP

Smooth over raised manholes during construction projects while increasing safety and saving money by re-using them over and over.



VALVE BOX RISERS

Patented compression valve box risers are

expertly fabricated to your specifications.

I.D. LOCATOR

Easily locate and identify utilities after paving. Pop-up design works with up to four inches of asphalt overlay.



RUBBER ADJUSTMENT RING

Eliminate noise and vibration. Watertight Seal.



SEWER LID SEAL KIT

Eliminate lid vibration characteristics and reduce moisture penetration.



PH: 888-272-2397 · FX: 330-874-3800 · WWW.AHP1.COM · 11723 STRASBURG BOLIVAR RD NW · BOLIVAR, OH

PARTNER FEATURE

"Easier Than Jackhammering": Privately Owned South Walton Utility Saves Time & Labor With Adjustable Manhole Risers Written by Angus W. Stocking, Land Surveyor | American Highway Products

outh Walton Utility Company Incorporated (SWUCI) is a member-owned, nonprofit corporation serving a small community near Miramar Beach, Florida. SWUCI is responsible for raising their own storm and sewer manholes to grade after repaving projects, and since 2006 the utility has been using Pivoted Turnbuckle Manhole Risers, made with U.S. Steel in Ohio by American Highway Products, to accomplish this chore quickly and effectively. "They're so much easier to set, compared to jackhammering and raising rims with bricks," Project Manager Richard Schwartz explains.

"It takes less than 20 minutes to raise manholes this way, compared to six or seven hours with excavation."

Even aside from the labor and cost savings, avoiding excavation of new pavement is a good idea for quality reasons-several studies show that when new paving is damaged with jackhammering and patched with hot or cold mix, pavement lifespan is severely compromised. And, also for quality reasons, adjustable risers are better than rigid cast iron risers. "We've had some problems in the past with rattling when using cast iron risers," Schwartz says. "But that's never happened with the turnbuckle risers." Adjustable risers are also lighter than cast iron risers, making them safer for crews to transport and install.



As the name implies, the AHP riser is a flexible, galvanized steel ring, with adjustability provided by a patented connecting turnbuckle. They're sized in 1/4" increments for thickness, starting at 3/4", so that new paving final grades can be matched precisely. The fully assembled risers can be ordered on short notice, but SWUCI keeps several on hand at all times, mostly in the 1" and 2" thicknesses that match local paving practice.

Installation is fast and easy; crews simply clean original rims, set in a riser of thickness matching the new paving lift, and then expand the riser by twisting the turnbuckle with a screwdriver or other short lever. The leveraged expansion applies thousands of pounds of force to the riser, seating it tightly, securely, and permanently. "We set them during the paving process, usually right before the paver," Schwarz says. "And we've never had any problems. They're a great product, and they save us a lot of time and money."

Angus W. Stocking, L.S. is a licensed land surveyor who has been writing about infrastructure since 2002.





APWA-NC TECH

Soil Data for Mapping and Analysis and ArcGIS

Contributed by: Jason McMahon, GISP

or those who are practitioners of Geographic Information Systems (GIS), chances are that many have at one point or another faced the daunting task of extracting and visualizing information embedded in raw soil survey data.

Developed by the USDA Natural Resources Conservation Service (NRCS), the Soil Survey Geographic databases ("SSURGO" dat, for short) can be quite tricky to navigate, necessitating a significant understanding and interpretation of the data's many related tables, as well as a willingness to become familiar with integral geologic concepts such as map units and soil components.

Previously, a tool called Soil Data Viewer was offered by NRCS as an extension for ESRI's ArcMap, allowing users to more effectively navigate SSURGO databases to create thematic soil maps driven by the underlying web of attribute tables.

However, with the recent proliferation of ESRI's ArcGIS Pro Desktop along with web-based data service libraries, new resources have become available that make leveraging soil data significantly more streamlined and intuitive.

Feature Services

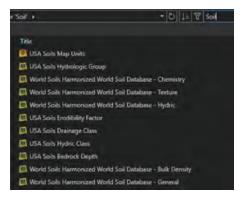
Users with an active ArcGIS License can add ready-to-use soil data directly into their desktop map projects without downloading a single dataset.



From ArcGIS Pro, navigate to the "Map" ribbon and click the "Add Data" button. In the Add Data window under the folder directory, click on "Living Atlas;" this will connect you to ESRI's rich library of robust datasets authored both by ESRI and authoritative data curators worldwide. If you are in need of a unique data layer for a specific project, there's a good chance you will find it here!

A quick search for "Soil" will present a significant list of results; the primary soil dataset provided by ESRI, however, is the "USA Soils Map Units." This layer comprises polygons representing the basic spatial unit for mapping areas of like soil type. A multitude of clearly titled attributes stored for each polygon make it highly nimble for thematic mapping and analysis.

It's also worth noting that many of these attributes have already been used to generate derived thematic raster datasets in the Living Atlas, which are readily-available for



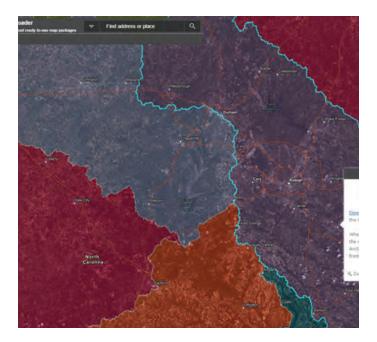
mapping. It's certainly worth a quick search if you're looking for a particular soil attribute.

The feature layer's summary page provides an excellent overview of available attributes and metadata:

https://www.arcgis.com/home/item

To add the feature service directly to your map, use the URL below:

https://landscape11.arcgis.com/arcgis/rest/ services/USA_Soils_Map_Units/featureserver



SSURGO Downloader

Another innovative method for accessing soil data is offered through ESRI's SSURGO Downloader. If your project requires further data manipulation or more indepth analysis, this tool will allow you to download the same USA Soils Map Units layer in geodatabase delivered via a map package. Using the interactive web app, users select an area of interest and can download datasets on a HUC8 river basin scale. Once downloaded, data within the geodatabase can be exported to the workspace of your choosing.

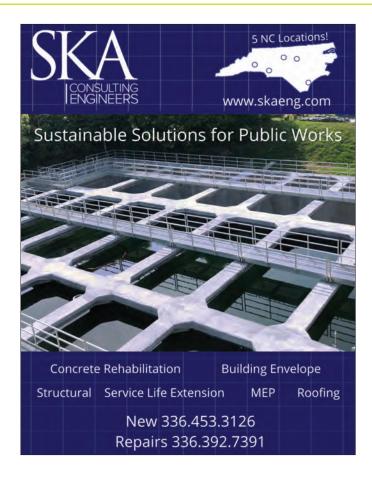
ESRI's SSURGO Downloader is available here:

 $\label{lem:https://www.arcgis.com/apps/View/index.} \\ html?appid=cdc49bd63ea54dd2977f3f2853e07fff$

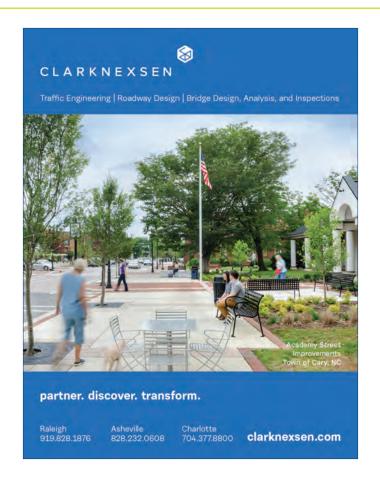
The age of web-based data services has made the world's growing geospatial data library infinitely more accessible to GIS users. Whether you are a casual mapper or a career professional, it is easier than ever to harness the power of authoritative spatial data to enrich and better inform your projects. •

Happy mapping!

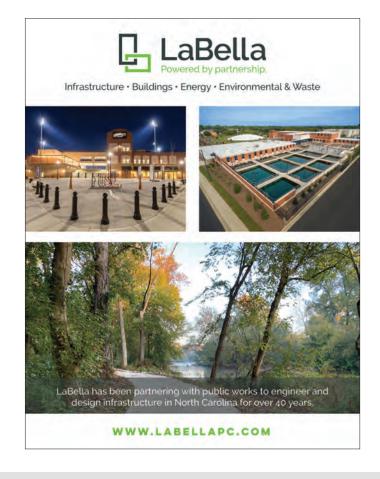
Jason McMahon, GISP jason@smithgardnerinc.com













PARTNER FEATURE

Hurricane Series: Debris Monitoring

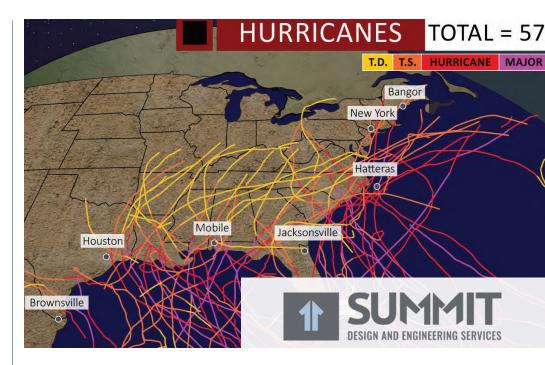
Written by Eric Rabon | Summit Engineering Services

ith hurricane season upon us, I wanted to delve into some of the ways engineering helps to protect us after a storm.

Everybody knows the precautions to take before and during a storm: store up on food, board the windows, stay indoors. But what about everything that happens after that, when you're ready to get back to your everyday life? Who helps get communities up and running again?

In this two-part series, I'm going to write about some of the invisible heroes of storm recovery, including planners and engineers. Specifically, these articles will include debris removal and monitoring, stormwater and bridge reconstruction, and Hazard Mitigation Grant Program (HMGP) and Community Development Block Grant – Disaster Recovery (CDBG-DR).

These services are the result of some disastrous events, and during this time of year they are some of the most crucial efforts in keeping us safe. This first entry will focus on the debris removal and monitoring piece of these services.



How Frequent Are Hurricanes?

Since 1985, 57 hurricanes have hit the east coast and states along the Gulf of Mexico. According to historic data, over 60 percent of hurricanes strike during the months of August and September. Thirty-six of the 57 hurricanes since 1985 have occurred during these months. The typical peak of hurricane season comes around the middle of September, but in the past 35 years, 12 hurricanes have made landfall on the southeast coast of the U.S. during the months of October and November. Similarly, 9 hurricanes have struck during the months of June and July.

What Do Hurricanes Leave Behind?

Hurricanes, tropical storms, and even tropical depressions can cause massive damage with regards to displaced debris. Debris can be tree limbs, house fragments, personal belongings, or anything that is moved from where it normally rests to a different location. Debris creates extremely hazardous environments for the public. Large debris such as fallen trees and power lines can block roadways completely, and other hazardous debris can contaminate the air and soil in the area.



Debris After the Storm

The top priority is ensuring public health by clearing roads for emergency services and travelers. Sometimes the best avenue for clearing routes is pushing the debris to the shoulder for it to be picked up later. This is a temporary solution and eventually the debris will need to be removed and disposed of properly. It is the responsibility of the state or municipality that owns and maintains the road to ensure the debris is removed. This process can be profoundly expensive, so the federal government has funds allocated through the Federal **Emergency Management Agency** (FEMA) and the Federal Highway Administration (FHWA) to assist state and local governments with the cost of these cleaning efforts.

This is where expertise in debris removal and monitoring comes into play in the days following a major storm.

Typically, the owner will enlist the help of a contractor to physically remove and dispose of the debris, and an engineer to monitor the process to ensure maximum federal reimbursement.

How Is FEMA Involved?

All cleanup operations must be properly tracked according to the FEMA and FHWA guidelines to receive this funding assistance. FEMA and FHWA guidelines are highly complex and require qualified individuals with this specific experience.

The most common debris from a storm is tree limbs and branches, which will fall into the vegetative category. This type of debris is the simplest to dispose of because it can usually be recycled, stockpiled, buried, or burned. However, each state has unique criteria regarding the disposal of debris. The state's Department of Environmental Protection must be contacted to determine which method of disposal is best for a specific area.

Due to the serious risk to public health, extreme caution must be taken by the contractor, monitor, state, and owner to ensure all debris is taken somewhere it can be dealt with safely.

Keeping Track of Debris

Until recently all debris quantity and disposal tracking was completed with the use of paper ticketing systems and required heavy data management and processing on the tail end of the operation. These methods left large margins for error and could result in forgotten debris, public health risks, and money on the table.

With the increased use of mobile devices and platforms, digital tracking and ticketing is replacing the paper trail thanks to new apps and programs. This increases efficiency and decreases tail end data processing, making information more readily accessible and searchable. This all leads to roads and property being cleared quickly and safely while securing more funding in the process.

I know personally from living most of my life on the coast in North Carolina, that hurricanes and their aftermath are frightening situations. People want to know how things get put back together, but people don't often know "who" is behind that recovery. It takes teamwork from many different professionals to restore communities after a storm.

As a private citizen, I take solace in knowing that there are a lot of people working quickly to make sure we can safely travel to the store for supplies, check in on loved ones, and return to work as soon and as safely as possible.

PARTNER FEATURE

Mapping the Future of Yates Mill County Park

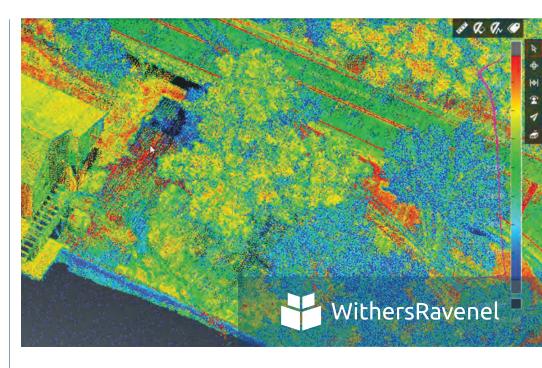
Written by Caitlyn Myers, Senior Marketing Associate | WithersRavenel

ithersRavenel used dronebased LiDAR to capture ground conditions around the historic Yates Mill so future traffic improvements could be contextsensitive.

Yates Mill County Park is adjacent to the intersection of Penny Road and Lake Wheeler Road. Both roads carry very high traffic volumes. The North Carolina Department of Transportation (NCDOT) is interested in exploring the possibility of future projects to modify the intersection or the roads themselves. These changes could include widening one or both roadways, changing their alignment, or reconfiguring the intersection geometry.

Because Yates Mill is on the National Register of Historic Places, potential transportation projects must take into consideration surrounding areas and minimize disturbance to any historic structures. During the due diligence portion of the planning process, the NCDOT's Environmental Analysis Unit (EAU) determined that additional historic structures may lie outside the existing park boundaries.

The EAU reached out to WithersRavenel to conduct a thorough investigation of the surrounding area's ground conditions. Our Remote Sensing team partnered with the NCDOT's Aviation Division to establish the site parameters and appropriate technologies for gathering the data the EAU needed.

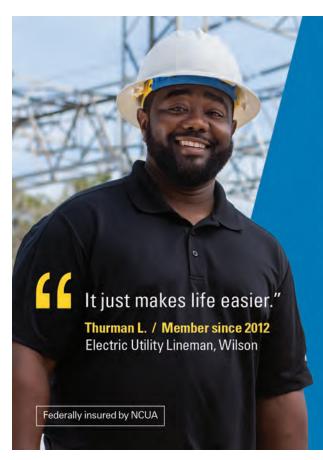


The target project area was roughly fifty acres, slightly less than one-third of the total park area and centered on the Penny Road/Lake Wheeler Road intersection. Our team chose a combination of drone-based photography and drone-based LiDAR to provide full coverage of the target area.

Our team established survey control at the site prior to scheduling the actual flights. This approach allowed us to collect the aerial photos and LiDAR scans on the same day, rather than splitting those tasks up over multiple days. Flight day went off without a hitch, with little to no disruption to park goers, normal traffic patterns, or nearby residents. EAU Archeologists were on site during the flights to both view the

technology and offer additional input for the flight parameters as necessary.

Once field data collection was completed, our Remote Sensing team processed the imagery and LiDAR data into a high-resolution orthomosaic and a full colorized point cloud dataset and presented them to the NCDOT project team. Using Microsoft Teams and screen sharing, the two teams reviewed the data together and identified a ground structure that could have been an additional historic dam.



MEMBERSHIP GIVES MEMBERS THE POWER THEY NEED

When LGFCU member Thurman L. was trying to make ends meet, he found that his Credit Union membership made a big difference for his family. "A lot can happen in 30 days — bills come in, field trips for the kids need to be covered." He says LGFCU helped him get through some tough times.

Looking back, Thurman says he's glad he became an LGFCU member.

Join the Credit Union created just for you. Visit Igfcu.org/join.















...the remnants of Hurricane Florence washed out a vulnerable, aging corrugated metal pipe culvert in a residential area of Durham, closing the road.

...McAdams was equipped to respond quickly to the City's needs for design and construction support of the Buckingham Road culvert repairs.

...McAdams is committed to the long-term improvement to the City of Durham's aging stormwater infrastructure and the safety and health of its citizens.

OUR SERVICES:

- Stormwater
- Stream + Wetland Design
- Natural Resources
- Civil Engineering

- Construction Administration
- Land Planning
- Landscape Architecture
- Geomatics



www.mcadamsco.com

IN THE COMMUNITY

Young Professional Spotlight Laura Wilson, APWA-NC Virtual Events Chair

Submitted by APWA-NC Young Professional Committee

GET TO KNOW LAURA WILSON

- **CAREER:** Civil Engineer in Training with Stantec
- **INDUSTRY SECTOR:** Water Resources
- APWA-NC MEMBER SINCE 2019



In Her Own Words

Since early high school, I have been interested in pursuing a career in the environmental sector. I used to think that looked more like going into ecology or environmental sciences but my love of math and physics in high school and college pushed me to pursue civil engineering with a focus on environmental and water resources.

I attended Mississippi State
University for my undergraduate
and Master's degree and was
able to focus on water resources
specifically in the agricultural
sector. Since joining Stantec in
2019, I have been able to work
on a wide range of projects
from treatment plants to stream
stabilization. I have loved my first
two years working and living in
North Carolina and have learned
so much about my field in the
time I've been here.

Looking Forward

Laura is looking forward to learning and growing in her field as she takes on new projects and works towards her PE. She is also seeking more connections both professionally and personally in North Carolina, especially now that things are starting to open up again.

Outside of Work

I have a dog that I love to take on runs and hikes. North Carolina is such a beautiful state so I have loved exploring it and meeting new people. Pre-pandemic, I enjoyed participating in run clubs around Winston-Salem and am hoping to get back to those soon. This photo was taken hiking with some friends in Nantahala National Forest.

Mentor

Linda Pass, PE



Interested in partnering with APWA-NC Young Professionals Spring Virtual events?

CLICK HERE.

A Little Advice

66

It is important to remember that our connections with people are some of the most important aspects of our jobs. It's easy to get so focused on the technical aspects of projects and neglect to build relationships and a community around our projects. I think pulling other people in at all phases of our work is important for not only our own growth, but for the growth of the community and the success of our projects.

Young professionals are the life blood of American Public Works Association's North Carolina Chapter and its communities. Whether you are new to North Carolina or a native, new to public works or a pro, APWA's Young Professional North Carolina Chapter (YPNC) can help you connect through events, a newsletter, our partners, and other associated YP organizations. For more information on how to get involved, contact YPNC Chair Kaylyn Forte, PE at forte@mcadamsco.com.

OPPORTUNITIES TO SERVE

PWX 2021 Conference

America's Center Convention Complex, St. Louis, MO

AUG. 29-SEPT.1

SUBCOMMITTEE MEMBERS NEEDED

Subcommittees will be building momentum as we proceed into 2021 with a full complement of activities underway in early summer. There are opportunities to serve, and we are recruiting throughout the early spring. Doran and Elizabeth will be holding training sessions throughout the rest of 2021 for subcommittee chairs, to help with budgeting and expectations to meet our long-term objectives.

Doran Maltba: DMaltba@toknc.com; (336) 345-1547

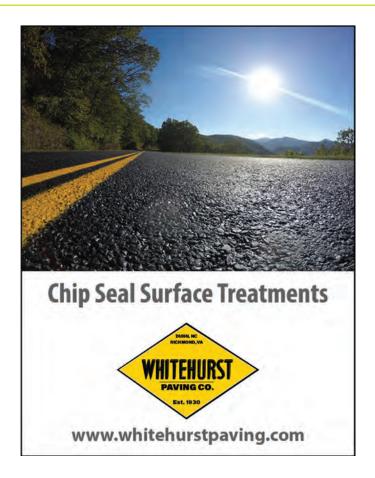
Elizabeth Treadway: elizabeth.treadway@woodplc.com; (336) 210-9011

One or two Subcommittee co-chairs are needed for the following:

- Exhibitor Hospitality (1)
- National Board Spouse Tour (2)
- Opening Session Entertainment (2)









OPPORTUNITIES TO SUPP

PWX 2022 Conference

Charlotte Convention Center



GET EXPOSURE WHERE IT MATTERS!

On behalf of the American Public Works Association -North Carolina Chapter, we thank you for the support you have provided to the public works programs that have made our state and region the envy of many. You are a key member in our APWA-NC Chapter, so we are contacting you to ask for your financial support as we prepare to host APWA 2022 PWX, "The Best Show in Public Works", with approximately 80,000 net square feet of exhibit space and nearly 6,000 of our fellow public works colleagues from North America and beyond, right here in Charlotte! This is an amazing honor and opportunity for our local members and our region.

We are hosting PWX 2022 here in Charlotte because of partners like YOU! Our chapter, and the entire state of North Carolina, have some of the best private companies that support Public Works ANYWHERE

in the nation. On behalf of the entire APWA-NC Chapter, we thank you in advance for your support that will allow us to achieve the very best PWX ever on August 28-31, 2022.

Our **Sponsorship Packett** highlights our local partner program and summarizes the different levels of partnership and benefits that you will receive for being a PWX 2022 local partner.

Your support for the APWA-NC Chapter and PWX 2022 is so important. For partnering contact information, please reach out to:

Cameron Patterson, Fundraising Chairperson cpatterson@withersravenel.com (919) 868-8027

APWA-NC WOULD LIKE TO THANK OUR GENEROUS SPONSORS OF PWX 2022!







ADDITIONAL UPCOMING DATES



H. ROONEY MALCOM AWARD STORMWATER PROFESSIONAL OF THE YEAR

Click here for the nomination form.



LEADERSHIP &
MANAGEMENT DIVISION
CONFERENCE

Click here for more information.



STORMWATER PROJECT OF THE YEAR AWARD

Click here for the nomination form.



APWA-NC EQUIPMENT SERVICES DIVISION SCHOLARSHIP DEADLINE

Click here for the nomination form.



STORMWATER
MANAGEMENT DIVISION
CONFERENCE

Click here for more information.



WELCOME NEW MEMBERS

The APWA-NC Chapter would like to welcome the following new members:

NAME	TITLE	COMPANY/ MUNICIPALITY
Jonathan Becker	Water Resources Engineer	WSP
Stephen Blasko	Director of Public Works	City of Oxford
Jennifer Brandenburg	Southeast Account Executive	AgileAssets
Craig R. Fox	Deputy City Engineer	City of Charlotte AP
Peter Henderson	Territory Sales Specialist	US Flood Control
David Lee Hursey	Civil Analyst	Kimley-Horn
Anthony Morrow	Stockroom Supervisor	City of Asheville
Terry Rogers	Fleet Shop Supervisor	City of Asheville
Jayson Staley	Street Inspector	Town of Chapel Hill
Christina C. Vanderzee		

EQUIPMENT SERVICES AND STREETS DIVISION ANNUAL CONFERENCE

Click here for more information.



CHAPTER CONTACTS

APWA-NC 2021 OFFICERS

President
Christopher W. McGee
City of Raleigh
christopher.mcgee@raleighnc.gov

Vice President
Mae Bryant
City of Charlotte
Mae.Bryant@charlottenc.gov

Alternate Delegate
James B. Martin, PE
NC State University/ITRE
jbm@ncsu.edu

President-Elect Rebecca L. Bost LaBella Associates, PC rbost@labellapc.com

Treasurer
Dale James
City of Greensboro
jamesstephend@bellsouth.net

Past President
Robby D. Stone, PE
City of High Point
robby.stone@highpointnc.gov

Delegate
Jeffery P. Brown, PE
Cumberland County
jbrown@co.cumberland.nc.us

APWA-NC 2021 DIVISION PRESIDENTS

Equipment Services
Steve Huss
City of Gastonia
steveh@cityofgastonia.com

Streets
Shane Parker
Summit Design and Engineering Services
shane.parker@summitde.net

Facilities and Grounds Mark Hale Town of Garner mhale@garnernc.gov

Stormwater
Jaclyn Stannard Town
of Garner
jstannard@garnernc.gov

Leadership & Management Keith Garbrick LaBella Associates, PC kgarbrick@labellapc.com

Solid Waste Andrew Martin Orange County Solid Waste Management amartin@orangecountync.gov





Want to be in the next issue?

NEWSLETTER SUBMISSION DATES

Each technical division is responsible for submitting at least one article per newsletter. Remaining deadlines for 2021 are August 16, and November 15. Content of the article is very flexible. Suggestions include trends in your industry, information about your division conference, or simply projects in your area. This is your chance to get creative while educating others about what is happening in your division. Please submit your articles and photos to Bri Labbate at blabbate@withersravenel.com prior to Monday, August 16, 2021.



The American Public Works Association is dedicated to education in the related areas of public works. We help our members, the public, and policy makers work together to provide the public works services needed to keep our communities operating smoothly and safely in concert with the latest environmental and public health standards. Through the national association and our 63 chapters in the US and Canada, we offer a comprehensive array of services to meet this educational mission.