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On the cover: The Charleston District survey crew went out into Charleston Harbor the day after Hurricane Dorian passed through the area to conduct an assessment survey. The results allowed the Captain of the Port to open the Port of Charleston later that day and minimally impact maritime commerce. Photo by Sean McBride

On the back: A view of the marsh in downtown Charleston from the roof of the Charleston District headquarters building. Photo by Sean McBride

Above: The sweetgrass is in bloom at the Cooper River Rediversion Project. This is grass that wasn't pulled at the recent annual sweetgrass pulling day. Photo by Jesse Helton

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The Palmetto Castle is a quarterly unofficial publication authorized under the provisions of AR 360-1 under supervision of the Corporate Communications Office. Editorial views and opinions expressed are not necessarily those of the Corps of Engineers or the Department of Defense. Inquiries, comments and requests for electronic copies can be forwarded to the editor of the Palmetto Castle by e-mail to: PalmettoCastle@usace.army.mil

From the Commander

Happy New Year!

That may seem premature to some of you, but for us at the Charleston District, it's a big celebration. We recently capped off our fiscal year with great success and hard work by our employees. We executed 728 awards for \$314 million! That's a lot of work for next year. We continue to grow in workload regardless of the size of our office. You can see more information about the successes of our past year in the infographic on page 10.

We recently dodged a bullet from Hurricane Dorian here in Charleston. We are extremely lucky that the impacts to the state were minimal and required no recovery by our team. However, we were prepared. We had assets staged in our emergency operations center at the St. Stephen Powerhouse, the State EOC in Columbia, and liaison officers up and down the coast. South Atlantic Division commander Maj. Gen. Diana Holland was very impressed with our preparedness (page 12) and we know that practice from storms that have a minimal impact help us be more prepared for the next. Let's just hope that we're done with hurricanes for the season, one more month to go.

Speaking of hurricanes, September was the 30th anniversary of Hurricane Hugo making a direct landfall in Charleston. It was an event that changed the city forever and will never be forgotten. Hurricane Hugo resulted in many positive steps being taken for the community going forward as better plans were put in place throughout the region. The Charleston District had a major role in the recovery from Hugo that very few people even know about. The iconic photos of the Ben Sawyer Bridge collapsed into the Atlantic Intracoastal Waterway are ones people will never forget. But most people don't know that we were the ones there to put it back in place (page 16).

Our magazine would be remiss without discussing some of the projects we have going on right now. We recently issued the third contract for Post 45, which will complete a continuous stretch of fully-deepened channel from the Entrance Channel to the Wando Welch Terminal (page 4). This contract is vital to completing the project on time and on budget.

We're also working on a water intrusion project at the Naval Health Clinic on Joint Base Charleston (page



6). We're helping them solve a problem that has been persisting for years in order to make sure that our partners and community have the best facilities possible.

Finally, our regulatory division has begun to implement new e-permitting procedures that will benefit many of you (page 8). We go into full details on how this process works, as well as profile two unique stories of employees in our District that you won't want to miss in this issue.

Thank you again for your partnership with us. I've been in command for four months now and am beginning to get the lay of the land. If I haven't met you yet, I hope to be able to do that soon! Happy Fall!

Rachel Honderd, PMP Lt. Col., U.S. Army Commander and District Engineer Rachel.A.Honderd@usace.army.mil

Charleston Harbor Third Dredging Contract Awarded

By Sean McBride

They say it takes two to tango, but sometimes a third is needed. In August, the U.S. Army Corps of Engineers, Charleston District awarded the third dredging construction contract needed for the Charleston Harbor Post 45 Deepening Project. The approximately \$124 million contract was awarded to Norfolk Dredging Company.

This contract covers the Lower Harbor to Wando Welch Terminal portion of the project and involves the removal of more than 11 million cubic yards of material. The work that will be completed under this contract, along with the contracts already underway in the Entrance Channel, will complete a full and useable segment from the ocean to the South Carolina Ports Authority's Wando Welch Terminal.

"We're very excited to issue the third contract for the Charleston Harbor deepening project," said Lt. Col. Rachel Honderd, Charleston District commander. "The Charleston District team has been working diligently with the South Carolina Ports Authority on this project for the last 10 years and we're proud to see the construction progressing."

The Charleston Harbor Post 45 project began with dredging in the Entrance Channel in February 2018 and is on track to be completed within the timeline originally projected, 40-76 months. The Lower Harbor to Wando Welch Terminal portion is expected to begin this fall and will be completed inside this timeframe. This portion will be deepened to 52 feet, whereas the Entrance Channel is being deepened to 54 feet.

The goal of the Charleston Harbor Post 45 Deepening Project is to address transportation inefficiencies resulting from new Neo-Panamax ships being tide-restricted when accessing Charleston Harbor. "The Charleston District team has been working diligently with the South Carolina Ports Authority on this project for the last 10 years and we're proud to see the construction progressing."

- Lt. Col. Rachel Honderd



Left: Multiple dredges are in the Charleston Harbor Entrance Channel conducting deepening operations. Photo by Sean McBride

Right: A view of the Charleston Harbor Lower Harbor and Ravenel Bridge from on top of one of the cranes at the SC Ports Authority. Photo by Sara Corbett





NHCC Water Intrusion Repairs

Article and Photos by Sara Corbett

The Charleston District has always prided itself on being "one door to the Corps," meaning that if any military or federal agency needs assistance, the District is here to serve and help. The tasks could be as large as constructing barracks or as small as replacing HVAC systems. This diversity recently led the Naval Health Clinic Charleston to call on the Corps for assistance.

"Since 2012, the Charleston District has executed \$21 million on eight projects for the NHCC," said Dan Klingshirn, project manager.

Some of the projects the District has completed include installation of an awning at the entrance, HVAC controls upgrade, a metal pavilion and replacing parking lot gates.

The most recent project is a water intrusion repair project. The NHCC, located in Goose Creek, SC, started leaking water through the walls and they were unable to find the source of the leak. After investigating, they reached out to the District to investigate the problem.

"We discovered that when it rains, a significant amount of water leaks through the stucco, vapor barrier and windows for a variety of different reasons," said Klingshirn. "After doing research, we decided the best route was to replace all the windows and to remove and replace

In all, there will be approximately 400 windows replaced and approximately 150,000 square feet of the exterior of the building will be replaced. This \$16 million project began at the beginning of September and is expected to be completed by March 2021.

the stucco on the building."

"This project is a big undertaking and we're doing it in phases so that the hospital can stay open and operational through the duration of the project," said Klingshirn. "Structurally, the building is in great shape and we're confident this will fix the leaking issue so that NHCC can continue to serve their patients and customers."

The Charleston District's versatility has expanded over the last 10 years in delivering for both military and civil works customers. Seeing many different issues from many different customers has given project managers a wide range of expertise to utilize on projects like these. The District is looking forward to coming up with more unique solutions to problems throughout the state. "We're confident this will fix the leaking issue so that NHCC can continue to serve their patients and customers."

- Dan Klingshirn, project manager



Left: Scaffolding is in place at the NHCC to begin replacing windows and exterior stucco.

Right: Klingshirn inspects the drainage from a gutter pipe at the NHCC.



CORPS OF ENGINEERS CHARLESTON DISTRICT REGULATORY OFFICE COVERAGE





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Chesterfield, Clarendon*, Darlington, Dillion, Florence, Georgetown, Horry, Lee, Marion, Marlboro, Sumter*, Williamsburg



Saving Time and Money

By Glenn Jeffries

U. S. Army Corps of Engineers permits are necessary for essentially any work, including construction and dredging, in the nation's waters and wetlands. The Corps balances the benefits and impacts of any proposed project, and makes permit decisions that recognize the essential values of the nation's aquatic ecosystems to the general public. The Corps also considers the property rights of private citizens who want to use their land. Many people apply for regulatory permits each year, and more than 1,300 permits were issued from the Charleston District in FY19.

The Charleston District just made this process a little easier for applicants. To continue improving efficiencies within the Regulatory Program, the District implemented paperless/ electronic files as a primary means of accepting project submittals and issuing final agency action.

This new process includes accepting all types of permit applications, as well as jurisdictional determination requests, no permit required requests and pre-application meeting requests. These typles cover the majority of the requests that come in each day.

"The District ran a pilot program on this process for many months before rolling it out full scale so we could get feedback and tweak any necessary issues," said Brice McKoy, the Columbia regulatory branch chief, whose office led this effort. The program has been very successful and has drastically reduced the District's reliance on paper products, postage and associated office supplies, saving taxpayers' money."

Conservatively estimating, the District is saving over \$10,000 per year on postage and mailing supplies alone, which is of even greater importance in a time of limited budgets. Additionally, it allows for immediate transmittal of correspondence, greatly reducing the time lost using traditional mailing procedures. With all the time saving, the overall process from submittal to final approval is up to 30 percent faster than the traditional method for many applications.

It didn't take long for this greener method to catch on, as Regulatory is already receiving over 90 percent of their applications in this paperless format. They are receiving only one or two paper applications each week, which is exactly what the District had hoped for. While electronic submittals are preferred, they still do accept paper documents. "The e-permitting process has enabled us to meet our clients' needs in a more professional manner."

- Laura Belanger, Environmental Permitting Consultants, Inc.

"The e-permitting process has enabled us to meet our clients' needs in a more professional manner," said Laura Belanger with Environmental Permitting Consultants, Inc. "The immediacy of the assignment of the District permit number and project manager has led to an increase in the confidence our clients feel that their project is being reviewed in a timely manner. Questions on submittals are able to be addressed more quickly and the overall turn-around time has improved dramatically."

To submit an electronic file, it must be a single PDF, pages can be no larger than 11"x17" and the text must be readable. Email addresses for all parties must be included and the file cannot be locked, secured or have active form fields for signature. Currently, the District can only accept up to 12MB, but larger files can be sent via the DoD SAFE file transfer site at <u>https://safe.apps.mil/</u>. (Files can be emailed to the appropriate office according to the graphic on the left-hand page.)

Improvements to keep pace with rapidly changing technology will continue to be published so the District can stay in line with practices used by other environmental professionals. We are proud to be delivering a better service to our community. The next time you need to submit a permit application, give it a try!

1,000 jurisdictional determinations issued

1,300 regulatory permits issued

32 USACE experts working on Charleston Peninsula Study around the country

CHARLESTON DISTRICT FY19 ACCOMPLISHMENTS

Fiscal Year 2019 was another banner year for the Charleston District. The District continues to grow in workload each year despite not growing much in staff size. The District recently boasted the fourth highest workload per capita in all of USACE. Each member of the District contributes to the success of our program and allows us to be a "World Class Workplace." Here are a few of the major numbers and accomplishments of the District this year.

4 million CY of material removed from Entrance Channel 3 females now in our top three leadership positions

41 new employees hired 60 participants at Veteran's Dove Hunt

728 contracts awarded for \$314,743,739

10,000 feet of barriers on HWY 501 for Hurricane Florence

36,198 service and preventive maintenance calls completed for Fort Jackson and 81st RSC 8,587 followers on social media networks

Began work on Joint Base Charleston Visiting Ouarters

Awarded \$124 million third contract for Charleston Harbor Post 45

800,000 CY

of material

removed

from **AIWW**

Placed 750k CY of material on 6 miles of the Grand Strand

3

employees

selected for

CRBJ Forty

Under 40

Turned over keys to Pierce Terrace Elementary School at Fort Jackson

Hurricane Dorian Response

By Sean McBride

Each year, the Lowcountry braces for hurricane season. Extending from June 1st to November 30th and peaking in September, hurricane season is unpredictable and anxietyinducing. This year, the first, and hopefully only, hurricane to cause that feeling in Charleston was Hurricane Dorian.

Hurricane Dorian built up power over several weeks, slowly inching its way across the Atlantic Ocean. The storm devastated the Bahamas as a category 5 storm, causing indescribable damage. It then eyed the east coast of the United States. Models projected a wide-variety of paths, but the consensus was that it would slide by the coast of South Carolina by mere miles, but not actually make landfall. After a harrowing day in Charleston, this prediction did come true and the region was blessed by a near miss.

Even though there wasn't much of an impact in the area, the Charleston District was braced and ready to respond if there was. The District had assets staged in the emergency operations center at the St. Stephen Powerhouse, the State EOC in Columbia, and liaison officers up and down the coast.

"The team was quickly postured," said Maj. Gen. Diana Holland, USACE South Atlantic Division commander. "Gov. Henry McMaster and other state officials sought me out to tell me that they appreciated the proactive support of the District. I continue to be very proud of the Charleston team."

The District's emergency management team was tracking the storm and internal assets for weeks before Dorian's arrival. As with all pre-storm preparations, communication with other local, state and federal agencies was key to making sure that everyone is prepared to respond as soon as the storm passes.

"Everything we do in USACE requires strong relationships with partners," said Holland. "These relationships facilitated a quicker response. This year, the same people came together as Dorian skirted our entire Atlantic coastline. We didn't need to spend time building relationships. Together, we were ready for anything!"

USACE SAD Command Sgt. Maj. Douglas Padgett echoed similar thoughts about partnership. In his role, he is focused on mission accomplishment and the welfare of the workforce, so he saw many new partnerships, but also saw the effectiveness of established relationships formed through months and years of preparation.

"[Our USACE districts] have made a concentrated effort,

"I continue to be very proud of the Charleston team."

- Maj. Gen. Diana Holland

whether it's through routine engagements or community outreach events, to be known as trusted partners," said Padgett. "Trust among partners is essential to mission success."

Both Holland and Padgett commended the Charleston District and the other four USACE districts in the South Atlantic Division, but caution that, just because the area dodged a bullet with Dorian, the work is not done.

"We must continue to plan and become better each day in preparation for any mission the nation may call upon us to complete," said Padgett. "Hurricane Dorian response efforts are indicative that together we are "Working Today to Build a Better Tomorrow."

The Charleston District is looking back at Hurricane Dorian planning and response as a "practice run" for the next time a storm impacts our region. This valuable practice and knowledge will help everyone involved to continue to be more prepared each season.



Photos provided

Left: Part of the South Atlantic Division emergency management team that came together during Hurricane Dorian.

Right: Maj. Gen. Holland gets a briefing on the planned response.



Using data to determine flooding

Article and Photo by Bobby Petty, Fort Worth District public affairs

"I understand data and the different things we can do with information," said Jennifer Kist, geographer, on the eve of Hurricane Dorian's near miss of the South Carolina coast. Analyzing flood maps, rainfall estimates and storm surge forecasts the first week of September 2019, she crunched data and reviewed imagery to help predict the impact of the category 3 storm on Charleston Harbor, the Atlantic Intracoastal Waterway, local beaches and other Army Corps projects.



"Because I've had experience in the field, and through my education collecting and analyzing the information that creates a lot of these models, I better know what to do with the information," said Kist. "Knowing that helps me determine what I can do with this data, its limitations and explain it all to the commander and emergency manager to help with their decision making."



In 2015, Kist began working for the Charleston District's survey branch performing a range of functions, including creating seafloor maps of the District's extensive navigation projects. During a six month assignment at the Engineering Research and Development Center in Vicksburg, Miss., Kist completed research and wrote a publication that details how to extract and interpret multi-beam backscatter, multispectral backscatter and multifrequency multibeam data to determine sediment type, search for low-density dredge materials and perform object detection.

Kist recently transitioned into a new role as a geographer for Charleston District's management support branch and has also taken on a role assisting the emergency operations team in Charleston for disaster response.

"My time in the survey team here taught me the value of the field teams," said Kist. "USACE is an organization that relies on bottom up funding in the projectfunded world and this results in each individual person's input and work to be incredibly relevant. Understanding the perspective from these places helps me to do my current job."

As a result, Kist's unique blend of educational background and practical experience in the field aids her in all stages of information management, from collecting data to analyzing data to then answering "why do we care?"

"Jennifer's passion and abilities enhance district emergency operations by her knowledge of USACE databases," said Michael Hind, emergency management chief. "Jennifer has the ability to pull key pieces of information from different sources and create graphical products which help leadership and planners see the larger picture of the disaster response operation. Obtaining information through graphical representations of data is far more productive than sifting through layers of reports."

"I like to solve problems," said Kist. "Whether it's working emergency ops and preparing or recovering from a hurricane, helping the city of Charleston with a flooding study to save our city from sea level rise, or working with navigation to figure out a better way to catalog data so that our field teams can access it in the field, I enjoy coming into work to solve problems."

Left: Kist shows how the data is collected and used in a hurricane event.

Hurricane Hugo: 30 Years Later

By Glenn Jeffries

As a Sullivan's Island resident, every weekday I cross the Ben Sawyer Bridge to head to work at the Charleston District as it is the main connection between the barrier island I live on and the "mainland" of Charleston.

The 240-foot long, 500-ton swing span bridge crosses the Atlantic Intracoastal Waterway, which the Charleston District maintains as is denoted by the Corps' Castle prominently displayed on the roadside.

As we approached the 30th anniversary of Hurricane Hugo, a devastating Category 4 hurricane which struck the coast, I discovered one more connection to where I live and where I work. When Hugo struck at midnight on September 21, 1989, it crossed Sullivan's Island traveling at nearly 25 miles-perhour with hurricane-force winds ranging out 140 miles from the eye and pushing a tidal surge that reached as high as 15 feet above mean sea level. There was major devastation on Sullivan's Island, including tipping over the Ben Sawyer Bridge into the AIWW. Plus, in 1989, it was the only connection to the barrier islands north of Charleston Harbor.

I recently calculated that I have driven over that bridge approximately 24,000 times in the last 22 years, so you can imagine my surprise when I discovered that the Corps was responsible for one of the biggest efforts in our community after this major storm; putting the bridge back into place after that fearful night.

The bridge swings on its central axis to open for boat traffic which is too tall to clear the bridge. It sits on a single 18- to 20-inch bronze bearing that rests on its center support pin. During the storm, the bridge slid into the AIWW like a seesaw, with the lower end in the water and the other 110 feet up in the air.

Mark Nelson, former Charleston District chief of design, volunteered to assist the South Carolina Department of Transportation to get the damaged, one million pound bridge back in use for traffic so friends and family could go home.

"I was familiar with these types of bridges because I had worked on four similar ones in North Carolina," said Nelson. "While working at the Wilmington District, I did design, repair and inspections on swing span bridges."

The S.C. governor had to officially request the Corps' help, but he provided a warning- "If you drop that bridge in the water, it's yours." Nelson immediately began working on sketches and trying to find a crane big enough to lift that much weight. There wasn't one, but he did find a contractor in Savannah who said they could help him. Mother Nature had taken the bridge down and now it was going to help put it back into place. The idea was to lift the bridge with the tide using two barges with a crane and tugs to move it around. Working at night on a high tide, the barges used their crane to begin lifting the sunken end. The bridge came up pretty easily, gradually lifting the bridge above the center pin. The tugs pushed the barges around. The span began moving closer and closer to the center pin where it was supposed to sit and then it stopped, 12 inches short.

"I reached out and started pulling that one million pound bridge," said Nelson. "We all wanted it to work so badly and we could not get the last foot to budge."

With the tide beginning to change, the tugs would have to wait for another chance in twelve hours with the next high tide. This time they added a manual crank winch to the equation and it worked. Shortly after midnight, just two weeks after Hugo knocked it down, the bridge was back in place for traffic. Nelson and the contractor became the first people to ride across, but as they did Nelson saw a tug with cabin and dredging equipment headed towards the bridge. He could tell there was not going to be much clearance and held his breath as the tug began lowering all of its antennas and other equipment. The tug cleared the bridge with only six inches to spare.

"God blessed me with education, training and experience and then put an opportunity in my path," said Nelson. "It was an honor and a privilege to be able to give back to the people of this community."

Now as I cross that bridge daily, my smile is even bigger knowing what the Corps did during one of the biggest disasters this area has ever seen.



Left: The Ben Sawyer Bridge is seen tipped into the water as crews attempt to raise it after Hurricane Hugo. Photo from Charleston District archives Right: Nelson holds a photo of the bridge that he keeps in his home as a reminder of his work. Photo by Sara Corbett

Charleston District



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Keeping Score

Article by Sean McBride Photos provided by Cole Gatewood

On Saturdays in the fall, 80,000 people funnel toward Williams-Brice Stadium to watch their beloved University of South Carolina Gamecocks football team. Most fans are cheering loudly with a plate of food and a beverage with friends. What's often forgotten are the behind the scenes people that make their game day experience enjoyable. You could say that without Cole Gatewood, a Charleston District engineer, not only would fans have a less enjoyable experience, but they would also be very confused. Why? Because Gatewood is the scoreboard operator for every UofSC home football game.

"I'm a fan and my wife is a UofSC graduate so we regularly went to home games," said Gatewood. "[When I got this job before the 2012 season] my wife was very supportive of it. Tailgating is an all-day affair and we were ready for a break. The next year, our kids were born and she now enjoys watching the games from home and being with our daughters."

On game day, Gatewood arrives at the stadium about two hours before kickoff. When he arrives, he goes into a meeting with the referees and representatives from each team, TV network and game day staff to go over the plan and synchronize the schedule. Then he starts a countdown clock on the scoreboard for exactly 90 minutes prior to kickoff. Gatewood sits in the press box at the 30 yard line on the home side with the public address announcer, sound control and marketing staff. Once the game starts, Gatewood has to lock in. "I'm able to watch every play," said Gatewood. "But, as soon as the ball is down, I have to key in the spot of the ball. I put in the side of the field and the yard line and the computer keeps track of the down and yards to go. There are several keystrokes for every play and I have to get them in as quickly as possible before the next play starts."

He's listening to his spotter on every play for the exact yard line of the ball. His spotter, fellow Charleston District employee Jason Hinton, calls out where the ball ends up so that Gatewood can mark it on the scoreboard and the PA announcer can call it out over the loudspeaker.

If there is a turnover, a penalty, or if a team is playing quickly, things can get hectic. If instant replay changes the outcome of the play or the referee requests the game clock be reset, Gatewood has to make those corrections too.

"What's been really eye-opening is being in the room and seeing the team that puts on all the production," said Gatewood. "They get ready for this all week and I just come in and push buttons on a Saturday. You see a side of the event that you just don't see as a spectator."

The days were not as long when Gatewood worked at the Charleston District's Fort Jackson Resident Office and lived in Columbia. He now lives in Goose Creek and works at the Construction and Survey Annex in Charleston, so his commute to the stadium is much longer.

> "I'm away most of the day on a Saturday, so it can be tough, but it's a lot of fun," said Gatewood. "My kids are six years old and they know I'm at the games and in the press box. They like trying to find me on TV."

For now, Gatewood loves getting to watch all the games and being an influential part of the team each week. He's been able to meet interesting people and see the operation from a different perspective and plans to keep doing this for years to come.

Left: The view of the field from the press box with the computer used to control the scoreboard. Right: Gatewood sits at his computer controling the scoreboard during a recent game.





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