

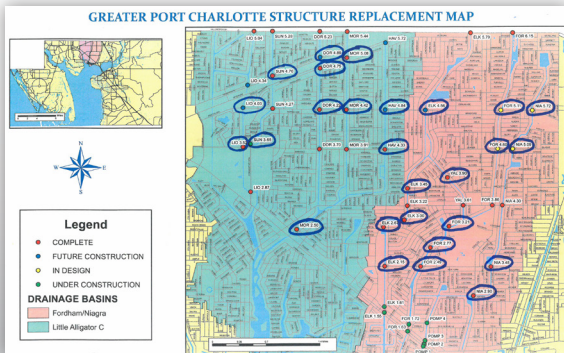
# Outlook

"Your project. Our passion."

## GREATER PORT CHARLOTTE SURFACE WATER MASTER PLAN

*Major storm event, water, flooding, canals, waterways...are words that keep ringing through our ears after the catastrophic Hurricane Ian tore through Florida. Diligent planning, effective modeling software, and engineering designs allowed for the Greater Port Charlotte (GPC) Storm Structure in Charlotte County to work effectively, keeping residents, businesses, and roadways safe!*

In 1999, Charlotte County Public Works (CCPW) retained Johnson Engineering to modernize the Greater Port Charlotte (GPC) Storm Structure infrastructure within the Fordham/Niagara & Little Alligator Creek Basins. This comprised almost 21 square miles of urbanized area of Charlotte County. Initially, General Development Corp (GDC) planned this development circa 1950s - 60s; with a massive marketing campaign of selling Florida paradise all over the United State and the world in 80'x125' lots. To do this, GDC planners and engineers shaped and dewatered this native Florida landscape with canals/waterways and provided storm structures along major corridors. These basins have 51 total structures installed circa early 1960s and have reached their life span in planned use.



The blue circles on the map above highlight 27 of the 51 Greater Port Charlotte storm structures where our team was involved in the engineering, permitting, and construction process.

CCPW knew the GPC area needed re-modeling to account for urbanization growth which occurred over the 50+ years of development and to assure no adverse impacts would occur with major storm events. One past storm event was in the summer of 1995, which caused roadway overtopping, roadway scouring failure, and major damage with exposed/compromised water/sewer infrastructure.

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In This Issue:

Greater Port Charlotte Storm Structure Replacement



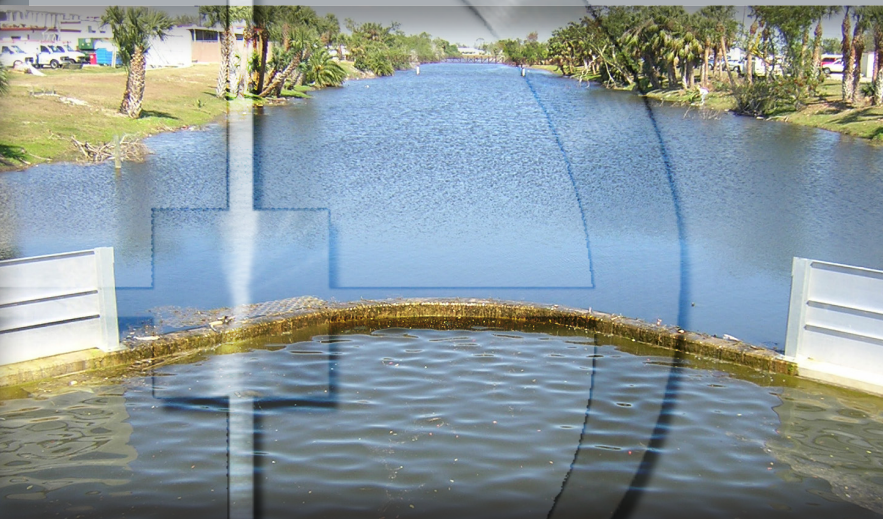
FGCU New Water School Now Opened



Johnson Engineering Support Our Schools Initiative



Andy Tilton, PE, Recognized for Outstanding Career Achievements



The aging storm structures didn't have the capacity to handle the stormwater needs of the area.

## PEOPLE & PROJECTS: ON THE MOVE



**Kevin Nguyen, PE** has joined our land development team. Kevin brings seven years of experience in land development and utility infrastructure projects. He holds a PE license in Florida, Massachusetts, and Connecticut.



**Amanda Martin, AICP** senior planner in our planning and landscape architecture group, has recently earned her American Institute of Certified Planners (AICP) certification! Amanda has been with Johnson Engineering for 20 years.





CCPW retained Johnson Engineering to survey, design, permit, and re-create the modeling of the GPC basins. The modeling required initially was Storm Water Management Model (SWMM), which is software from the United States Environmental Protection Agency (EPA) and allows a dynamic model and included inflows from Sarasota County. To acquire permits from Southwest Florida Water Management District (SWFWMD), the model was converted to Interconnected Channel and Pond Routing (ICPR) modeling software. This led Johnson Engineering to acquire a conceptual Environmental Resource Permit (ERP) from SWFWMD for the County. This conceptual ERP would be the guiding document to the systematic replacement of the 51 storm structures over the next 20+ years as funding/budgeting became available. The phasing and sequencing was interrupted with the 2004-05 hurricane seasons, with 2004 Hurricane Charley causing years of delay in order to address the repairs needed post-hurricane.

Most recently, as Hurricane Ian slowly and stubbornly made its destructive way through the area with relentless rain, wind and storm surge, the GPC renovated storm structure system performed without fail!

This table summarizes the project and our team’s involvement in the engineering, permitting, and construction of the storm structures in the project.

Drainage Basin	Area		# of Storm Structures	# of JEI Structures	Structures By others
	Square Miles	Acers			
Fordham/Niagara	10.1	6,450	29	15	14
Little Alligator	10.8	6,890	22	12	10
Totals	20.9	13,340	51	27	24

In addition, this work has been beneficial to the public in the following ways:

- Maximizing public right-of-way - The original storm structures installed by GDC spanned the roadway width only, which wouldn’t allow for many other amenities found in modern roadway/bridge construction, i.e. pathways, lighting, utilities. The new structures were designed and located to maximize the full right-of-way to allow for these amenities to be placed now or in the future.
- Along with these replacements, Johnson Engineering was instrumental in qualifying many of these structures as Florida Department of Transportation (FDOT) bridges due to the span in the waterways being >20 ft wide. Therefore, these structures will be on the FDOT bridge inventory to be inspected within the FDOT library on an annual basis.
- Needed utility upgrades at each structure were accommodated during design and construction. The initial 1960s construction of these storm structures was transportation focused with little accommodation for utilities (public and private) which eventually followed. As part of the new construction, utilities were addressed and accounted for.
- Since these 21 square miles of basin are mostly built out, this means the public transportation system at these structures is heavily used by commuters, residents, school busing systems, garbage collection, emergency management, and others as part of daily life. Johnson Engineering worked with these stakeholders to implement fast-track construction, detour routes, and on several structures required open roadways/sidewalk during construction to avoid major daily life interruptions.

The GPC basins have all been modernized with new storm structures with design life to last generations and CCPW has fulfilled their duty to protect the health, safety, and welfare of the citizens of Charlotte County. Johnson Engineering is proud to have worked in such a major role for this project.

For more information, contact Charlotte County Branch Manager, Chris Beers, PE, PSM at [cbeers@johnsoneng.com](mailto:cbeers@johnsoneng.com) or (941) 766-6262. ■



## FLORIDA GULF COAST UNIVERSITY’S WATER SCHOOL OPENS TO STUDENTS

The newest academic building #9, the School of Water Resources & Integrated Sciences, nicknamed “The Water School”, opened this fall for students. This revolutionary educational facility is like nothing Southwest Florida has seen. The new 4-story facility will be entirely water-focused, integrating water resources, coastal studies, marine, biology, and ecological sciences together with the existing STEM programs. Hands-on labs and classrooms will allow students to dive into learning more about the estuaries and rivers that flow throughout our communities, to the Everglades, and Gulf of Mexico. This school will open many doors to students as well as benefit our Southwest Florida community by helping learn, study, research, and find solutions to help our area’s water quality issues.

Johnson Engineering was the civil engineer for the project, working closely together with RG Architects, HuntonBrady Architects, and Manhattan Construction, as we provided the overall site and parking design, stormwater management plan, environmental, utilities, and associated permitting. We are excited to see the impact this school makes on our community.

For more information, contact Dana Hume, PE at (239) 461-2471 or [dhume@johnsoneng.com](mailto:dhume@johnsoneng.com). ■



## JOHNSON ENGINEERING EMPLOYEES “SUPPORT OUR SCHOOLS” WITH MUCH NEEDED SUPPLIES

Johnson Engineering’s “Support Our Schools” initiative grew out of our belief that private enterprise has an ongoing responsibility to contribute to the education and learning of the young people in their local communities. We also believe that their teachers, who play such a vital role in their students growth and development, are truly the unsung heroes of our communities. They deserve every opportunity possible to have whatever supplies and equipment they need to teach effectively. This perspective led to Johnson Engineering’s “Support Our Schools” Program, which is designed to benefit K-12 schools in the counties in which we have offices by participating, sponsoring, and donating to a variety of community relations efforts to directly and positively impact the school’s teachers and students.

This fall, Johnson Engineering employees donated hundreds of school supplies to the School Districts of Lee, Pasco, Hendry, Collier, and Charlotte Counties. Community support is such an important resource for our schools. Improving education resources can better prepare our children who will become our future workforce.

We wish the teachers and students a successful 2022-23 school year! For more information contact Dana Hume, PE at (239) 461-2471 or [dhume@johnsoneng.com](mailto:dhume@johnsoneng.com). ■





# Outlook

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## ANDY TILTON, PE, RECOGNIZED FOR OUTSTANDING CAREER ACHIEVEMENTS

Through an official Proclamation from the State of Florida, Johnson Engineering's Director of Water Resources, Andy Tilton, PE, was recognized for his nearly 40 years of outstanding achievements and successful projects as a professional engineer!

Andy joined Johnson Engineering in 1978 and throughout his career has played a role in nearly every project imaginable throughout Southwest Florida, in one aspect or another. Andy has studied, walked through, and tested many natural water bodies plus a significant number of stormwater ponds, whether big or small in Southwest Florida. His knowledge of our area's hydrology is unmatched. Congratulations Andy! ■



(L to R) Melanie Griffin, Andy Tilton, Angela Shave

