



# *The Florida Surveyor*

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**FSMS Pioneers:  
E.R. Brownell**  
Page 8

## **In This Issue**

- Early Coastal Surveyors of Florida
- Did You Ever Wonder Why?
- Around the State

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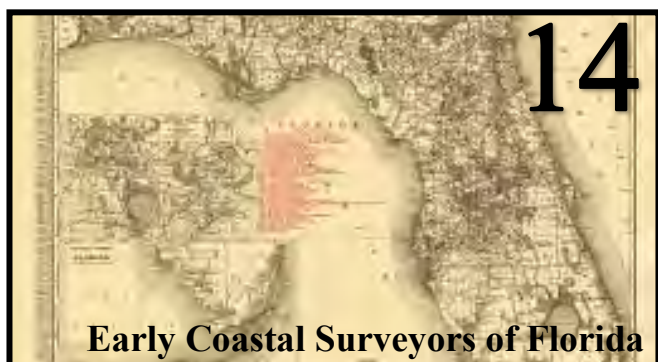


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President’s Message | 4

Did You Ever Wonder Why? | 21

Education Course Information | 24

Chapter Presidents | 27

Districts and Directors | 28

Committees and Admn. Staff | 29

Sustaining Firms | 30

Additional Information | 32

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# President's Message



I hope all of you are enjoying a little bit of this cooler fall weather and take the time during your busy day to appreciate the simple things in life. The beauty and glory of God's greatness is ever present around us, and his strength and love is truly within us all if we choose to embrace it.

My thoughts and prayers are with all those in the Panhandle area whose lives were changed so suddenly and drastically by Hurricane Michael. FSMS is committed through our Disaster Relief Fund to help and assist all of our fellow surveyors in any way we can. We have been

gathering financial resources to help all of those in need, and we are ready to assist with any of your financial needs as you get back on your feet. Please contact the FSMS office and let us help. This is the type of people we surveyors are, and this is what your society does during times like these.

The final months of 2018 are finally here, and it is time to start looking at and planning for 2019. In my message last month, I mentioned the importance of the legislative duties of FSMS and how your annual dues pays for this integral part of our association and how legislative interaction helps sustain and protect our licenses and businesses. I also mentioned the importance of the FSMPAC, and encouraged everyone to be an annual contributor at whatever level you can. Having a financially strong PAC greatly enhances the effectiveness of our legislative voice. So, with membership renewal notices coming out just around the corner, I want to remind everyone of the importance of joining and maintaining FSMS, and what FSMS does for you.

FSMS gives each of its members a membership and a voice in NSPS, as well as the ability to network with fellow members on both a national and state level. We strive to maintain local chapters that are led by volunteer officers and populated by members who work throughout your local communities in the private and public sectors. If you are renewing as a full member, your membership will provide you with a voucher for 3 CEC's which can be used for a correspondence course or a live 3-hour seminar when available. FSMS works to support NSPS's CST program, associate-level education opportunities, and well-funded college scholarships that are available to students.

We have an excellent Board of Directors, and each member serves on established committees that tackle the following areas: legal issues, legislative issues, unlicensed practice, equipment thefts, education, governmental affairs, and keeping in touch with our state regulatory board. We are here to serve and listen to the needs of the profession and our members to the best of our ability, now and into the future. For the 29 years that I have been a member of FSMS, it has never failed to support me, my business or family. I am grateful and thankful for that, and thankful for the opportunity to serve the Society and give back to this honorable profession.

During this month of Thanksgiving, take time to be thankful to God, your family, friends, fellow workers and associates. Thank a veteran and our men and women in uniform for this great country of ours.

"Now is no time to think of what you do not have. Think of what you can do with what there is."

—Ernest Hemingway, *The Old Man and the Sea*

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# Surveyors in Government



Richard Allen, PSM, CFM

To start, I would like to take a moment to tell all of our fellow surveyors, their families, and all of those affected by Hurricane Michael that our thoughts and prayers are with you. I cannot begin to imagine the pain you all are feeling right now in the hardest hit portions of the Panhandle. As for Government Surveyors, I know you are probably doing anything but surveying right now. I know we have all before been in the position of clearing roads and helping to provide beneficial support to our communities that are hurting.

When you do return to duties as surveyors, it may be quantifying debris or some other method of measurement as it relates to damage or preparing to rebuild. It is difficult to see our homes and communities destroyed and the total devastation that comes with hurricanes and other forms of Mother Nature. The flip side of that is that these tragedies do, in most cases, bring out the best in humanity. Please know we are all thinking of you and know that brighter days are ahead!

*2 Corinthians 4:8-9 We are hard pressed on every side, but not crushed; perplexed, but not in despair; persecuted, but not abandoned; struck down, but not destroyed.*

On another note, I would like to discuss an excellent group for government surveyors and those who work with them. This would be the Florida Mapping Council. The council is comprised of various government surveyor groups and other entities, including, but not limited to: the water management districts, ASPRS, FDOT, DEP, NSPS and FACM (Florida Association of Cadastral Mappers). The group is currently led by Rick Pryce and will soon be led by Randy Tompkins of DRMP starting in January. The group regularly

*“The flip side of that is that these tragedies do, in most cases, bring out the best in humanity. Please know we are all thinking of you and know that brighter days are ahead!”*

discusses issues that are affecting surveyors within government, or discusses other items that are pertinent to the topic. This involves CCNA, legislative changes, unlicensed activity and a multitude of other items.

The group meets quarterly across the state and some great discussions are generated. The individuals involved in this group have a diverse set of skills and experience that benefits the group as a whole. This leads to my final topic for this month's article - Jack Breed, a regular participant of the Florida Mapping Council.

I have to say, it is always a pleasure working with Mr. Breed! You would be hard pressed to find a more genuinely caring person than Jack Breed, which includes both his passion for surveying and protecting the profession! I regularly reach out to Jack, as most government surveyors do, asking for his opinion on a matter or to broach him

on a subject so he is aware. He puts on his regulatory/legislative hat on and goes to work. A surveyor's surveyor is what Jack is, someone who tries his best to challenge issues while trying to play the devil's advocate. I really appreciate his time and effort, not only in his legislative review and CCNA efforts, but in all he does for our profession! Thank you sir, and I am sure to say, without

your effort and dedication we may have a truly different situation as it relates to our profession because of the many obstacles that have impacted it in my 20+ years of working in the profession!

Until next month my friends...

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# FSMS Pioneers

*A series that honors the legends of surveying in the state of Florida*

By Dominic Levings

## E.R. Brownell

*After building his reputation in a different era, Brownell has tales few surveyors can equal*

Sixty-five years have passed since Edwin Rowland Brownell obtained his survey license, LS928, in February of 1953. In that same time span, over 6,000 individuals have become licensed surveyors in the state of Florida.

“I guess I’m one of the few left that still has three numbers,” Brownell said.

And perhaps there is not a more accomplished man to whom that distinction could belong to.

Born in Tampa on September 19<sup>th</sup>, 1924, during Calvin Coolidge’s first term as President of the United States, Brownell’s parents moved to Miami when he was only six months old.

In the near-century since, Brownell established himself as a journeyman surveyor, an incredibly successful businessman, and a respected leader and advocate in the surveying profession.

Growing up, Brownell did not have any family members employed in the profession. His path into the career started with his work at Biscayne Engineering Company, the oldest engineering firm in South Florida. He worked on a survey crew with the firm during his summers home from college.

He graduated from the University of Florida in 1947 with a degree in Civil Engineering. He obtained his license six years later at 28 years old, after passing the official exam on his first go-around.

Now 94 years old, Brownell is still remarkably sharp, able to recall memories from decades ago and recite seemingly obscure details. Stories from his heyday as a surveyor illustrate a different time in America, when it seemed as if there was still much to be discovered and explored.

And if there was any surveyor fit

for that time period, it was Ed Brownell.

### Odysseys in the Field

After receiving his license, Brownell quickly opened his own firm, E.R. Brownell & Associates, in 1954 in Miami. His location in South Florida inherently made him a prime candidate for clients seeking surveys in the Caribbean and beyond.

“I was given various assignments that would prove to be interesting,” Brownell said.

“Interesting” is perhaps not a strong enough word.

In the early 1960s, at the height of the Cold War, Brownell was contacted by the federal government about a potential project. However, Brownell soon learned that this project was anything but a run-of-the-mill federal infrastructure or construction project.





*Ed Brownell's boy scout picture, circa 1934, when he was about 10 years old.*

This project – incredibly – was a top-secret project.

“When I became involved at first, they asked me a lot of questions, and then I was examined by the FBI, and they questioned by neighbors and clients and other acquaintances,” Brownell recalled.

After this initial screening by the FBI, Brownell was flown to Washington D.C. and escorted to the Pentagon. It was at the Pentagon, in a secret velvet-padded conference room, that he learned of his assignment from a group of naval officers and other officials.

“I was then told I was to be part of a program to develop jet torpedoes, and to be part of a program to [research] the caves in Andros,” Brownell said.

Andros, the largest island in the Bahamas, lies 138 miles southeast of Fort Lauderdale. Brownell was specifically tasked with satisfying research development for the Atlantic Underwater Test Evaluation Center (AUTEC), which is still based on Andros today.

During this time period, Andros was of importance to the United States

government for several reasons. Fresh off the Cuban Missile Crisis, the government knew that communist ships often passed near Andros to reach Cuba, and wanted to conduct research as to why they did.

The government was also interested in a deep underwater cave located within the island's steep shelf. The cave, Brownell remembers, was big enough and deep enough to house a submarine. The government wanted to make sure a Russian submarine wasn't already there, and to potentially station a submarine there themselves.

Brownell then assembled a survey crew and was flown to Andros. He was tasked with surveying certain sections of the Andros shoreline, and to map out the underwater cave using bouncing radio waves.

Later in the 1960s, Brownell was contacted by a local engineering company in Miami and asked if he was interested in surveying Antigua, an island southeast of Puerto Rico. With just a one-week's notice, Brownell assembled a four-man crew to take with him.

The crew was to depart in a twin-engine C47 plane from the Opa-locka Airbase, in northern Miami-Dade County. Brownell remembers that take off was delayed extensively due to an unspecified plane malfunction.

“We waited, and waited, and then the A/C had broken, and it became very hot...our clothes became soaking wet with perspiration,” Brownell recalled. “We cheered when the plane began to move.”

In hindsight, that cheer may have been premature.

“The first two hours of the flight were uneventful, but then an oil leak developed in one of our engines,” Brownell said.

As a result of the oil leak, the pilot had to shut off an engine. He advised that while they could continue to fly with only one engine, it was safer to land and assess the damage.

The nearest landing strip was on Mayaguana, the easternmost island in the Bahamian chain. After flying for nearly 45 minutes with only one engine, the C47 landed safely.

The co-pilot evaluated the damage and determined that a routine repair was not possible. He then arranged for necessary parts, along with two mechanics, to be flown in from Miami.

“This meant we had to spend one or two nights on Mayaguana while repairs were made,” Brownell said.

Mayaguana is the least developed and most isolated of the Bahamian islands. Brownell was told that 312 natives inhabited the island at the time. Even today, some 50 years later, that number remains the roughly the same.

While waiting for the help to arrive, the small band of four surveyors set out to wander around and explore a portion of the island. It



*Brownell in 2018, at age 94.*



An aerial view of Mayaguana. The airstrip where Brownell landed some 50 years ago is circled, and the arrow indicates Betsy Bay.

wasn't long before they came across a peculiar sight.

They chanced upon a gang of native men constructing a crude road. The men were smashing large boulders into smaller rocks to fill in the road with. But this was not the unusual part.

The work gang of 10 men were supervised by one woman, who, according to Brownell, was over six feet tall, over 300 pounds, and very muscular.

"She ruled over her gang of men with a drill sergeant attitude. She directed and chastised them as they worked," Brownell recalled. "The men referred to her as Big Ruth, but not to her face."

Later in the afternoon, the crew wandered into a small settlement where some of the work gang lived. The buildings were made of wood and stone, with thatched roofs.

There was a small store in the settlement that had an outdoor counter with stools. It was at this store that Brownell and his men came upon Big Ruth once again. She was seated on a stool, with a beer in her hand.

"One of my young, brash survey rodmen went up to the counter and ordered a beer, and then asked 'How are you, Big Ruth? Did you have a nice day?'" Brownell said.

Big Ruth was not amused.

"She grabbed him by the front of his shirt, with one fist, and said 'The name is Ruth, not Big Ruth, do you understand?'" Brownell recalled, laughing.

Aside from their encounter with Big Ruth, Brownell remembers that the native inhabitants were extremely friendly. The last leg of the surveyors' journey took them to a small settlement known as Betsy Bay, where they found several crops being grown.

Despite his adventures on the island, perhaps what Brownell remembers most about his time in Mayaguana was the serene natural beauty of the island.

"It had unspoiled beaches, excellent fishing and scuba diving, and was covered in palm trees and *lignum vitae* trees," Brownell reminisced.

"It had tangled underbrush with all sorts of warblers and humming birds, and there were also ospreys and kestrels and herons... a group of flamingos were spotted feeding nearby. Mayaguana is really a bird lover's paradise."

According to Brownell, the largest project his firm ever undertook was to survey the boundaries of Everglades National Park in the 1970s. The project, he estimates, took about two years and thousands of man-hours. The work was unpredictable, dangerous, and arduous.

"I have actually walked coast to coast through the swamp," Brownell said about his time overseeing the project.

Angel Lopez, who became co-owner of E.R. Brownell & Associates after Brownell's retirement, remembers working on the Everglades surveys. He vividly remembers the wildlife they commonly stumbled upon – namely, snakes.

Lopez remembers that the alligators were not so much of a problem, because they were always expected to be near canals and little ponds.

"But the snakes were hidden. Bad ones, like moccasins. Those are my worst nightmare. We had to take emergency kits in case we got bit. Someone else would have to suck out the venom..." Lopez recalled, with the hesitation of someone experiencing an unhappy flashback.



The skin of a massive rattlesnake that Brownell killed in the Everglades.

During one survey, Brownell and his crew were navigating a canal in the Everglades in an airboat when it suddenly experienced mechanical problems and broke down. Then, one of the crewmembers began to experience heart attack-like symptoms, miles away from any medical help.

Brownell made the decision to split the group up. He and one crewmember would go and seek help, while the other crewmember remained on the airboat with the ailing man.

While trekking through the swamp, Brownell and his partner came across a cabin.

They approached the cabin to ask for help, only to find exactly the opposite: the cabin was occupied by men who had recently robbed a bank and were hiding out in the swamp.

The robbers, suspicious of them, proceeded to tie up Brownell and his partner.

Brownell tried to convince the robbers that they were not with law enforcement, and had no intention of turning them in. He expressed that their friend was experiencing health problems and that they had to get help immediately.

The robbers eventually conceded and let the two men go. After making it out of the swamp and arranging for help to be sent, Brownell - like any good surveyor - promptly called the cops and told them the location of the cabin.

As a result of his extensive work in the area, Brownell is considered an expert witness for the Everglades. His long-time association with the Everglades also led to a friendship with the Miccosukee Tribe of Florida, and a personal relationship with Buffalo Tiger, the longtime leader of the tribe who died in 2015.

## The Founding of FSMS

Brownell was present when the Florida Society of Professional Land Surveyors, the forerunner to what is now FSMS, was created in 1955.

“I went to pre-formation meetings in various cities and finally we met in Orlando, and that was the meeting it was formed at,” Brownell recalled.

Brownell remembers having a good relationship with H.O. Peters, the man who is recognized as the founder and first president of FSMS. At the time,



*Brownell's FSMS President's Portrait, from 1973.*

Brownell was 30 years old, and Peters was 52. Peters passed away in 1986 at age 83.

“He was a person who was interested in perfection...he was a kind of mentor to many people. H.O. Peters was a good man,” Brownell said.

Brownell indicates several factors that led to his involvement with the society, but there is one issue he emphasizes most: the profession's lax education requirements at the time.

“We had a lot of people who came in and called themselves surveyors and went into business. That was a problem,” Brownell said.

Brownell served on the first FSMS Board of Directors, and ultimately became president of the society in 1973. His main goal as president was directly related to his original involvement with the society.

“I was interested in promoting education. That was my primary goal,” Brownell stated.

“Surprisingly enough, I had a lot of opposition in establishing a survey degree program. There were those who didn't want that at all.”

Not surprisingly, however, was the fact that Brownell's commitment to education reform for the profession didn't end at the state level. He was also the first President of the National Society of Professional Surveyors (NSPS) in 1978, and president of the American Congress of Surveying and Mapping (ACSM) in 1980. The ACSM would later merge into NSPS in 2012.

## It's All In The Family

Brownell operated E.R. Brownell & Associates in Miami for 36 years, before retiring in 1990. At one point, Brownell owned 10 firms located across the state. The largest, Tri-County Engineering in Naples, Florida, had 102 employees.

Those who worked for him say that Brownell's surveying and business acumen were unmatched, and his leadership style fostered an efficient workplace.

“He led by example. He was very knowledgeable. He was a boots-on-the-ground surveyor,” said Tom Brownell, Ed's nephew who took over the firm with Angel Lopez in 1990.

“I have a lot of respect for him. He's my mentor...I leaned a lot from him. He's an exceptional business man - very smart. He knows how to run a business,” Lopez said.

Evelyn Mika, one of Brownell's

daughters, points to her dad's "extreme generosity" as the defining trait of his leadership.

"He's the kind of person who will turn the other cheek and give people chances. He's always been the kind of person who is very fair. He's the kind of boss you want," Evelyn said.

Elaine Dorrans, Evelyn's sister, remembers that every year around Thanksgiving, her family would purchase turkeys for every employee and their families as a sign of appreciation.

"Our mom would always say that without their support, we wouldn't be able to do what we're doing," Elaine recalled.

"[My parents] always brought it down to the first step and valued every piece of the puzzle. Because without one piece, it's incomplete. They kept value on employees high – I don't remember much turnover at all."

Elaine also remembers the close bond that her family would forge with the employees.

"Their kids baby sat me, and I ended up babysitting their kids. Even today we're still in touch with some of the former employees," she said.

Tom, who is also the current Vice President of FSMS, is often confused as Ed's son. In reality, he is the son of Ed's only brother.

"Ed Brownell is my uncle and infamously he's been called my father so many times I quit counting," Tom joked.

Tom credits his uncle with introducing him to the surveying profession. He started working for Ed as a crewman during summers in high school. After graduating college in 1971 with a degree in ocean engineering, he went to work for E.R. Brownell & Associates.

Tom recalls that it was sometimes tough, yet rewarding, working for a relative.

"He didn't treat me any different than the next joe. I appreciated that. It brought a sense of accomplishment that nothing was given to me, that I had earned it," Tom said.

Tom's son now works for him at the firm, and he follows his uncle's blueprint on how to approach managing a relative in the workplace.

"I treat him the same way. You know, you've got to get it – show me. I can basically thank Ed for guiding me in the right direction," Tom said.



*Brownell with his wife of nearly 51 years, Blanche, in 2005.*

Brownell's immediate family also worked for him. He has four daughters: one from a previous marriage, Nancy, and three – Elizabeth, Evelyn, and Elaine – with his wife of 51 years, Blanche. Elizabeth passed away in 2012.

Blanche left her job as a teacher to help run the office after they were married in 1967.

"She ran that office. She was the glue that kept it all together," Evelyn said.

Brownell's daughters remember working at the office when they were young. They helped their parents with various odd-jobs and have happy memories of time spent at the office as children.

"We helped out with putting checks in order on the office floor, alphabetizing things, filing stuff, running prints and plats, collating binders, all when we were itty bitty," Evelyn recalled.

Elaine also remembers going to the office quite a bit in her youth.

"I learned how to run blueprints through the blueprint machine. I had a little stepstool - I couldn't even see the top of the machine. But I could run that blueprint machine," she said, laughing.

Later, in their teenage years, both daughters would hold paid positions with their dad. Evelyn worked as a secretary at the surveying firm throughout high school, and Elaine worked as an operator at a bank that Brownell owned.

Whether they were on the job or at home, the sisters remember that their father constantly taught them and helped them grow.

Elaine remembers one instance when the family was driving to the office in Naples. She was taking an advanced math class at the time and was struggling to complete her homework.

"I remember my mom driving, and he sat with me the entire drive down Tamiami Trail helping me with my algebra until I got it," Elaine said. "It was awesome."

Evelyn says that her dad would use every opportunity to help them learn and that everything was viewed as a chance to grow.

"If I asked for help with my homework, and I didn't know what a word meant, he would get a dictionary and use even larger words to



*Ed and Blanche in 2017 on their 50th anniversary.*

teach us,” she recalled.

“He was always giving us second chances and helping us to teach us lessons.”

### **Retirement and Beyond**

After retiring in 1990, Brownell came into the office sparingly over the next few years to help and advise when needed. But for the better part of the last 28 years, Brownell has enjoyed the perks of retirement.

“I enjoyed golfing, and I golfed about four days a week to start with,” Brownell said.

However, Brownell hurt his knee and underwent an operation. After the doctor advised that he would need a second operation if he didn’t stop playing golf, Brownell had to give it up for good. Now, he mostly plays bridge.

“At least I can’t hurt my knee again,” Brownell joked.

Reflecting on when he was heavily involved with the profession and serving with multiple organizations, Brownell is satisfied that he helped contribute to the improved educa-

tional standards of the profession.

“I would say the biggest change is probably in education. When I started out, there were very few educational requirements. There were no degree requirements. And there is today. And I’m proud I was part of getting that instituted,” he said.

He knows that a lot more than just education has changed over the years. For instance, he fondly remembers the now-archaic equipment that he used to survey with.

“Technology has changed remarkably. When I started, a transit and a tape was about all you needed to be a surveyor,” Brownell said. “Now they would not be used very often except in exceptional circumstances.”

In 2017, Brownell was honored in front of hundreds of people at the Church of the Little Flower in Coral Gables. He was recognized as the oldest living alumnus of what used to be St. Joseph’s School, which he attended through high school and graduated from in the early 1940s. Today, it is known as St. Theresa Catholic School.

One of the last living surveyors in Florida with three numbers on his license; the oldest living member of his former day school – in his advanced age, Brownell is used to such designations.

In fact, when asked who else could be interviewed for this story – whether it be friends, coworkers, or other acquaintances – he responded simply:

“When I think of these people, most of them have died.”

Be that as it may, surely all of them, if alive today, would be pleased to know that Ed Brownell - who turns 95 next September - is doing just fine.



*Brownell being honored at the Church of the Little Flower in 2017.*

# The Early Coastal Surveyors In and Around Florida

*This article originally appeared in the First Quarter 1990 issue of Backsights & Foresights.*

by Michael A. Ward  
December 1989  
Senior Student Project, Surveying Program  
University of Florida

## Abstract

For centuries man has had a need to know the boundaries of the land to which he lays claim. In the early years of this country, before it became known as the United States, our forefathers sought out an end to the religious persecution and the freedom to speak and do as they pleased. They found that in the New World. This great land gave rise to a civilization unmatched in spirit and power. As our forefathers expanded they had an urge to seek out new areas to settle and raise families. This gave rise to the need for surveyors to map and divide the new lands. Even before the land surveyors began their work, and before the states were formed, the governing bodies, felt the need to expand trade and imports. This was accomplished through the waters in and around Florida. The commissioning of the charting of the waters for navigation came in the late 1750's. By the early 1760's two men, George Gauld and William DeBrahm, were hard at work on what would be the single largest mapping job to date. They worked on two different sides of the state, whether or not one knew the other is not stated, but together they would map the coast from Galveston Bay to Charleston South Carolina. The following is a brief encounter with the two men who probably had the single biggest influence on early trade. Their accomplishments are a true statement to the desire and spirit these two men showed.

## William DeBrahm

The early years in the life of DeBrahm are unclear. It is known that he was raised in Germany but where he

received his education is not known. DeBrahm was married to an heiress and thus it is believed that his commissioning into the army of King Charles II was one of prestige rather than servitude. It is not written how DeBrahm became an engineer. It is stated that



he was persecuted by his native Germans for renouncing his Catholic faith. DeBrahm was befriended by two British Barons who were responsible for colonizing the newly acquired land in Georgia and east Florida. DeBrahm immigrated to the east in the early 1750's. From there he was appointed the surveyor general for the newly acquired land. (DeVorse 1971)

DeBrahm's early works were in South Carolina and Georgia, mapping the land above the water and mapping the land covered with water. He charted many rivers and streams, and laid out numerous buildings and marinas. DeBrahm was educated in the workings of structures and roads, as well as the necessary skills to accurately position himself with respect to surveying principles. After surveying the coasts of South Carolina and Georgia, DeBrahm moved south to St. Augustine Florida and began work

there. (DeVorse 1971) Where ever DeBrahm resided, he was revered as a noble and true statesman.

Upon reaching Florida, DeBrahm began surveying the area. During his surveys DeBrahm also wrote down detailed accounts of the weather and the conditions affecting his travel. These details proved to be of great importance later on in scientific studies of the area.

DeBrahm was more interested in the charting of the land masses than he was with the recording the depths of the channels. The maps DeBrahm made are detailed descriptions of the positions of the islands and shorelines. Although he includes depths in most instances, DeBrahm made better note of the course of rivers and streams. (DeVorse 1971)

The extent of the mapping done by DeBrahm reaches from north of Charleston, South Carolina, to the Cape of Florida, including the Straits. The other surveyor, George Gauld, who worked mainly on the west coast of Florida, concentrated on the mapping of the waters for their use in navigation. The charts and maps the two produced are of impeccable detail and are truly a tribute to the skill and professionalism the respective surveyors practiced.

## George Gauld

George Gauld was born and educated in Scotland. While studying at Kings College, Mr. Gauld took an interest in mathematics and the arts. After completing his education, Gauld took the civilian position of school master aboard ships with the Royal Navy. The position of school master aboard ships was by no means a glamorous job. An educated man employed as school master was earning the same pay as a fourteen-year-old

midshipman. This is a true testament to Gauld's dedication. For the next several years Gauld was cruising the waters of Europe and beyond, visiting the places he had studied. Gauld endured foul weather and enemy ships. By the later part of 1759, Gauld decided that he needed a change. (Ware 1982) Little is known of Gauld's activity during the early 1760's. It is assumed that his extensive knowledge of mathematics and related disciplines lead him into the profession of cartography.

In 1764 Gauld appeared in the British colony of Pensacola, on the West Florida coast. Among those there were several Naval officers, with whom Gauld had dealings with while aboard naval ships as a teacher. The new governor of West Florida, George Johnston, who was also a naval officer, and had served in the Caribbean, realized the need for extensive charting of the waters. It was then that Gauld was again employed by the Royal Navy, as a civilian cartographer. (Ware 1982) Gauld was placed aboard various ships and charged with the mapping of the waters around the Florida Coast.

The colony of Pensacola was growing as a trading post and military strong hold. Thus Gauld's first duties were to prepare accurate charts and maps of the Bay of Pensacola. The charts produced were elaborate maps, noting depth at low water in fathoms, type of bottom, and even the type of trees that were found in various places around the bay. In this description for the seafarer, Gauld went into great detail concerning the hazards, and obstacles one would encounter upon reaching the bay. Many of the hazards noted by Gauld are still hazards encountered today.


Pensacola flourished in the coming years. Trade with other colonies such as New Orleans and Jamaica increased, as well as the military build up that was needed. (DeVorse 1971) This was due, in part, to the charts prepared by George Gauld. (Ware

1982)

### **Espiritu Santo**

In May of 1765 the governor of West Florida ordered the survey of Espiritu Santo, now known as Tampa Bay. At the time the survey was ordered, Gauld was busy surveying the areas surrounding the Bay of Pensacola. Upon receiving the order to proceed to the bay of Espiritu Santo, Gauld broke off the survey and headed for his new duty.

Gauld decided that the survey should begin with the mouth of the bay, and proceed inward. After making extensive soundings and



***Gauld's first duties were to prepare accurate charts and maps of the Bay of Pensacola. Gauld went into great detail concerning the hazards and obstacles one would encounter upon reaching the bay. Many of the hazards noted by Gauld are still hazards encountered today.***

sketches of the islands in and around the entrance, Gauld proceeded cautiously up the bay. Gauld gave a detailed description of the location of Egmont Key, which protects the main channel, as 27 degrees 38 minute North. This is actually only two and a half minutes of arc off the true position, as noted by today's charts. This is an example of the accuracy and detail of Gauld's works. (Ware 1982)

During the survey of the bay, Gauld noted several schooners dropping anchor just inside the bay in various locations. This would perhaps indicate the notability of the bay for its abundance of fresh water and firewood. It was obvious to Gauld that the bay was known and used by many trade captains when sailing the area. The earlier presence of the Spaniards was also noted. They left several small, deserted villages that were still used by the passing sailors. Gauld's

work in the bay was completed in sixty-eight days. The extensive, and now elaborate charts contain details that could have only been obtained by an extremely detailed search of the surrounding areas. Gauld went into such detail, that he even noted what type of fish and game could be encountered in certain areas around the bay. (Ware 1982) With the completion of the first of three special surveys, Gauld set sail for Pensacola.

### **Coastal Surveys of Florida**

Gauld's work in the Espiritu Santo area demonstrated to the commander of the Royal Navy in Pensacola that better survey vessels were needed. It was then that commander commissioned the building of two smaller schooners. It was decided that the construction of the boats be done in New England or New York for obvious economic reasons. In the interim, the Navy purchased a schooner locally for Gauld to resume his work.

The area to be charted next was the west Florida coastline, from Pensacola to Cape San Blas. The waters offshore, as well as the shoal area was to be mapped, with the recording of bottom characteristics and any hazards, such as reefs or bars to be noted. (Ware 1982) In the process Gauld also explored and recorded three bay areas. Little is known of the day-to-day progress of Gauld. However, one account talks of the return of one of Gauld's seamen. The conditions the survey party encountered must have been terrible if one of the seamen hiked back to Pensacola. (Ware 1982)

However, Gauld must have found the work highly interesting. This is evidenced again by the extensive details incorporated into the maps Gauld returned with. Gauld found the lands of the survey area onshore just as exciting as the waters. He made many trips ashore and made note of the trees and hammocks that could be used by traders. As Gauld continued his voyages he made his way southeastward toward St. Andrews

Bay. Once in the bay, he again took painstaking care to note all the details associated with the local surroundings.

With less than thirty miles of coastline left to be charted, Gauld encountered the first problem of note. The bottom of the schooner purchased for the trip was in need of rapid repair. Upon the return to Pensacola, Gauld's boat was scraped, and a Navy frigate was employed to finish the map making. After acquiring the navy boat and a full crew, Gauld and captain set sail to finish the survey of the section of coast. (Ware 1982)

They returned to St. Joseph's Bay, the point at which they left off. Upon reaching the bay area, Gauld continued his charting of the shoal area, and the islands surrounding the entrance to the bay. It was at this point, that we get a feel for the reasoning for the continued surveying of the coast. In Gauld's description of the area, he paid close attention to the availability of fresh water, and the type of soils in the area. This leads to the conclusion that the British were interested in the value of the land, and its ability to sustain crops and trading ports. The English were looking to extend their hold in Florida, and somehow set up ports between Pensacola and the English-held Jamaica. In this instance Gauld reported that the agricultural value of the land was very poor. However, he reported the apparent abundance of seafood that could be harvested from the waters of the bay. Gauld also noted the existence of abandoned trading posts once held by the Spanish and the French. (Ware 1982)


The next chore was the charting of the waters off of Cape Blaise. Gauld recorded soundings as far out as sixteen miles off the coast. For this he employed the new technique of utilizing smoke from fires set on shore at certain places. Using the fires as a sort of triangulation spot, he was able to accurately position the boat.

Upon completion of the last section of this coastal survey, Gauld returned to Pensacola. This time he was able to

stay in port for two weeks, one of the longest stays in port since the entire project was undertaken.

#### **Mapping West to Mobile**

The next great assignment undertaken by Gauld was the mapping of the coast west to Mobile. No sooner did the ship reach the open waters before a storm swell crossed the ship. Opting to outrun the storm the party continued west, toward the Mississippi for shelter. Being unfamiliar with the area, they chose to ride the storm out in the open waters. After the passing of the storm, they returned to the Mobile area, only to again run into a storm.



***Gauld notes the location of a small town, "Tallahas." This is situated about four miles north of the present-day Tallahassee and is believe to be the first noting of the city, then a trading post between Pensacola and St. Augustine.***

This one was not going to be outrun. Being unable to accurately sound the mouth of the Bay of Mobile, the ship's captain decided to ride this storm out at sea. By the time the storm abated two days later, the ship was without sails and masts and had been blown sixty-five miles off the position of two days before. Thus the shipmen rigged a temporary mast and headed for Pensacola. Upon returning to Pensacola the ship was greeted by another storm that kept them from anchoring for several days because of tides and wind. Thus ended Gauld's first trip to the west, with absolutely nothing done. However, he did learn of the value of a small shallow draft vessel able to cross the bars and enter the bays for protection from the storms. (Ware 1982)

After one more unsuccessful attempt at mapping the coast west of Pensacola, George Gauld decided to

stay in port for the winter of 1766-1767. While in port, Gauld was able to compile all his maps of the Florida coast south to Cape Blaise. These maps were then forwarded to the Royal Navy in England. Gauld attached a letter stating that in the two years of mapping the coast, these were the only maps he felt were of sufficient completeness. For his effort, his salary was doubled, from ten to twenty shillings a day. That is more than he was paid in one month aboard ship as a schoolmaster. During the long winter months, Gauld became somewhat of a statesman. Records show that Pensacola received a new governor whose main objective was to enlarge the city itself. With this new governor came a new assignment vessel. Gauld was granted use of a thirty-five foot sloop that drew only seven feet of water. This vessel was well-suited for the surveyor.

Gauld's next task was the mapping of Apalachy Bay, and the St. Marks River. Gauld subsequently mapped the mouth of the St. Marks, and the northern waters, the Wakulla. In the exploration of the rivers and their tributaries, Gauld notes the location of a small town, "Tallahas." (Ware 1982) This is situated about four miles north of the present-day Tallahassee and is believe to be the first noting of the city, then a trading post between Pensacola and St. Augustine.

During the coming months Gauld, in his new boat, explored the river Perdido and the adjoining bay. The surveyor noted the Escambia River and followed the course of the river noting the depth, and conditions of the river bank. Gauld also noted the crossing of a road, believed to be the main trading road from Pensacola to Mobile. (Ware 1982)

After returning home for provisions, Gauld again set sail for Mobile Bay. This time intent on completing the survey of the waters to the west. Gauld would stay out a month at a time now. The smaller ship would allow for no more time. Several trips later Gauld



completed his extensive survey of the area in and around Mobile Bay. On this voyage, Gauld served not only as a surveyor, but also an explorer. Noting all the settlements along the rivers, as well as the type, and nature of the vegetation and crops.

For the duration of 1768, and most of 1769, Gauld and his crew extensively surveyed the western waters. Reaching as far as the Bay of Bilouxi, and as far north as their sloop could navigate. By the end of the journey, Gauld had surveyed all the coast line as far west as the Mississippi. Included in the surveys were details of Lake Ponchatrain, and most of the small rivers that fed it. Gauld also made note of the island chain off the Mississippi River, however these were not of any detail.

**George Gauld The Statesman**

It was during the winter season of 1768 that George Gauld became recognized as a true statesman. He was a prominent citizen within his Pensacola community, as well as a

well-established scholar and landholder. This recognition probably lead to the events over the next several years. (Ware 1982)

Once back on solid ground for the winter season of 1769, Gauld noticed transport after transport leaving port. It was at this time that the military brass decided that the troops would be better served if they were on the east coast. It would be easier to mobilize the troops, and transport them from St. Augustine. So now the town of Pensacola was in serious trouble, as the naval forces were also seriously cut back. The governor of the region was able to persuade the commander that George Gauld should not be recalled, because his work was needed if the continued success of the British strong holds were to survive. Gauld remained in Pensacola.

However, more pressing events on shore severely limited Gauld surveying in the time period of 1769 to 1771. George Gauld became involved in politics. He served for a time as

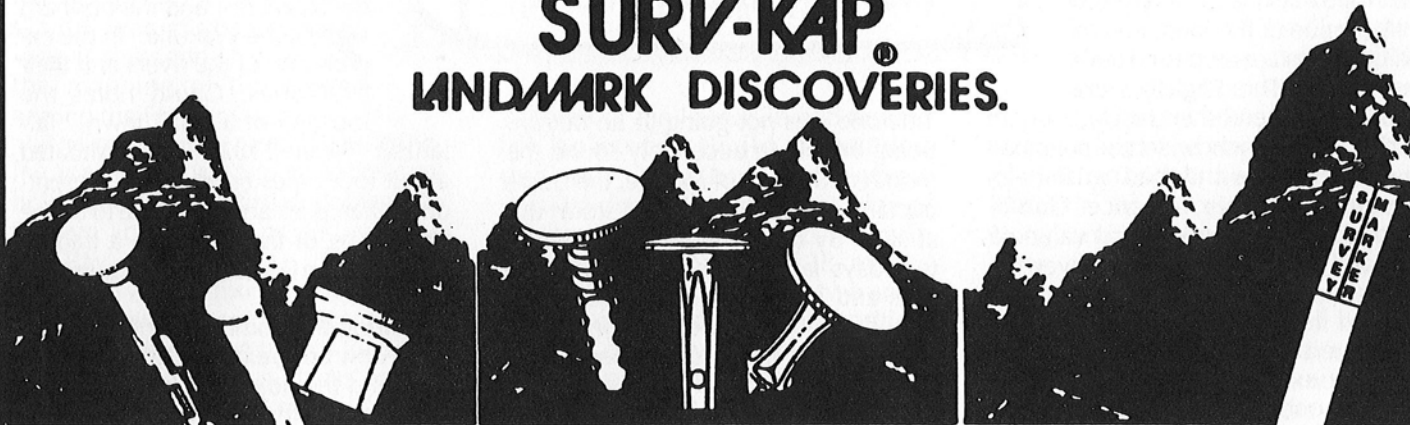
delegate to the House of Commons, and served on numerous committees, including the House of Grievances. Gauld became known for his level-headed decisions and the depth of this knowledge. (Ware 1982)

In February of 1769 Gauld was able to break away from the political squabbling to resume his work for two months. In the next two months Gauld sailed east until he reached the Suwannee River. The surveyor then proceeded to survey the first twenty-four miles of the river. The entire account of Gauld's trip notes the natural beauty of the river, and of the adjoining lands. However, trouble at home cut this trip short, and Gauld was forced to return to Pensacola in late April. Upon his return he found a new governor, naval commander, and a restored hope for the survival of the Pensacola.

The new governor was young, twenty-six years old. He instituted plans for new elections and removed several high-ranking officials from of-

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ficie. However, as with any good idea, this one soon came to a halt with the untimely death of the new governor. So, once again, the struggling colony was in the hands of the past governor. Gauld and others pushed for the elections that the young governor had planned. Once again, Gauld was able to influence the people of Pensacola and the elections were held. Gauld, it seems, had ulterior motives, though. He was planning to set sail again for some uncharted sands and he wanted to know the colony would have new people in power when he returned. (Ware 1982)

Once again returning to the sea, Gauld sailed west toward the Mississippi. In late 1769 Gauld surveyed more of Lake Ponchartrain, and its many feeders. After a brief stay, it was back to Pensacola for the winter months and the annual compilation of charts and notes. This time Gauld was again actively involved with the House of Commons and the political fervor that engulfed the tiny Pensacola com-

munity.

In early 1770 Gauld received word that he was elected into the American Philosophical Society. This was an honorary society recognizing the scientific achievement of its members. To give an idea as to the prestige of the society, Ben Franklin was president at the time of Gauld's induction.

In June of 1770, Gauld set out for another summer of work. It was during the trip to St. Joseph Bay that Gauld's party passed a ship transporting slaves to Pensacola. This was a sure sign to Gauld that the economic success of West Florida was well established. This trip would take Gauld back to Tampa Bay for some checking and recharting. After several days, Gauld was sufficiently satisfied that no significant changes were to be found. Anchor was weighed, and Gauld set sail south. This leg of the trip took the surveyor farther south, toward the Keys in search of interesting shore line to map. (Ware 1982)

The map-making process alternated

with the winters ashore until late 1771. It was during the winter of 1772 that Gauld was summoned to Kingston Bay in Jamaica by the new Royal Navy Commander because his port was in need of charting. Kingston and Port Royal were now thriving with trade, and had become a British stronghold in the Caribbean.

#### Surveying The Caribbean

The next two years, 1772-1773, were spent surveying Jamaica and the Florida Keys. The increased shipping in the area warranted the charting of the waters in and around the shipping routes. Kingston Bay proved to be the hub of all trade in the southern waters. Lumber was brought in, and the rum was shipped out. After Gauld finished the sounding in and around Kingston Bay and the Florida Keys, he was assigned the trip he had only dreamed of previously.

Gauld was assigned the task of charting the Mississippi River and its tributaries. For the trip, Gauld was provided with two new sloops that

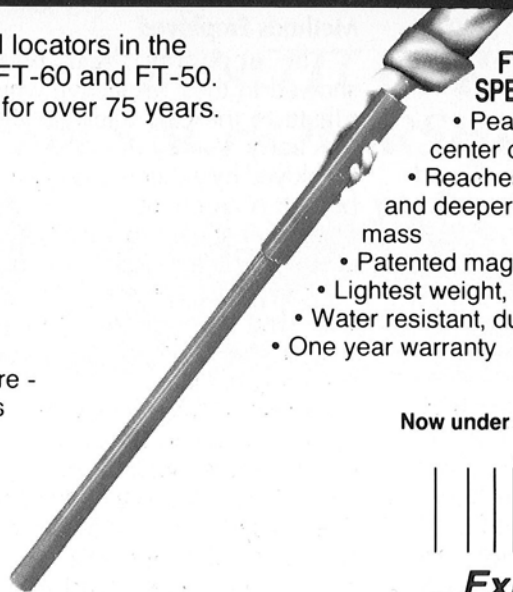
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were designed especially for his survey work. Four years after their requisition, the boats finally arrived.

The next several years were spent bouncing back and forth between the Mississippi and the warmer latitudes of the Caribbean. The job of naval surveyor had turned into what is now an extended vacation. Gauld not only charted the tropical waters of the Caribbean, but also the region west of the Mississippi. He was able to move west, and in an amazing display of skill, chart the region all the way to Galveston Bay. The chart, some twelve feet long, proved to be not only accurate by today's standards, but also a work of art. The chart showed panoramic views of the coast line. These inserts were thought to have been one of the most helpful aids to the captains of these waters. They showed bluffs, stand of trees, and any other features Gauld thought would be beneficial in aiding the captains in their voyages. (Ware 1982)

By the end of the 1774 surveying season, George Gauld's work as he knew it was going to end. In the coming years Gauld would no longer be able to survey the coast of Florida and the surrounding waters. Trouble in the Northern states was gaining recognition, and the waters were no longer as safe as they were in earlier years.

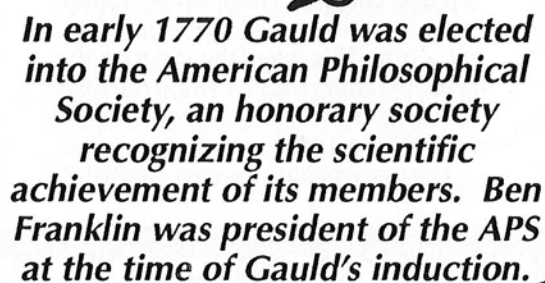
#### **George Gauld At Home Again**

In the coming eight years, Gauld would only be on the sea he loved for several months. The colony of Pensacola, although far from the war, was to be affected. Trade was down, and the skills of the accomplished surveyor and statesman were better served on solid soils.

Political unrest forced Gauld back into service as a delegate and justice of the peace. He proved to be a noble statesman, and were it not for his efforts, the British hold in the Gulf coast may have been lost sooner. In late 1777, George Gauld and his new wife moved to New York. It was to be in New York that the final days of the sur-

veyor would be carried out. George Gauld passed away while in England on a business trip. Thus the life of one of the greatest names in early surveying came to an end. (Ware 1982)

Neither George Gauld nor William DeBrahm left behind many writings as to the methods employed. As was typical in the early days of any profession, most of the techniques employed were only noted in the actual field notes of the men, and thus only the government or the governing agency ever had access to the notes. Because of this, the methods used were subsequently never published or were



*In early 1770 Gauld was elected into the American Philosophical Society, an honorary society recognizing the scientific achievement of its members. Ben Franklin was president of the APS at the time of Gauld's induction.*

published much later as historical trivia under another heading.

#### **Methods Employed**

The accuracy these two men showed in their respective works is a tribute to the care and dedication of the early surveyor. The methods employed by either man are sketchy at best. It can only be assumed how the surveys were performed. With the lists of equipment requisitioned by the two, we can make some overall assumptions, but by no means are these the actual methods employed in the gathering of the data.

We know that relatively accurate positioning techniques existed during the time these two men were performing their surveys. The method probably employed for a geodetic position was by making use of solar and star shots. There were extensive mentionings of solar and star position observations, as well as a mention of the

accuracy of the time pieces both men held. There were also books of charts, and tables supplied to both men. How often, and how numerous the observations were, and who actually made the observations is not recorded. It can only be assumed that as the men proceeded down the coast to a new area, they landed on shore and set several points of a known position. The points were probably spaced out evenly along the shoreline, with the approximate distance between the points recorded. Once the points were set, either the party built a large fire, or placed a large visible flag above the point. It can be assumed that when staying close to the shoreline the flags were used. However if the survey was to be in the deep water offshore, in all probability the parties employed the fire, and used the smoke plume as the sight.

Both men were issued several theodolites. With the theodolites the men could measure angles between the sights. Since the distances between the sights were recorded, and the angle between is now known, it would not be difficult to find the perpendicular distance off the shoreline.

Both men were also issued several chains. The manifest does not specify the type or construction of the chains. However, the English surveyors have been using the Gunter's chain for two hundred years by this point, so it can be assumed that the chains provided were Gunter's chains. While the men were still on shore, they probably utilized the chains and theodolites to map the shoreline. Another possibility is that the surveyors used the ship's compass to measure angles and directions of the land-based surveys.

Another interesting topic is the methods employed for sounding. It is mentioned that "soundings were taken," but the method is not stated. There are several possibilities. First, is by using the chain itself. By weighting the end of the chain, it could be lowered into the water, and the depth measured. This is a very unlikely

method. These chains were constructed of metal, and the surveys were being conducted in salt water. The combination of the two would lead to corrosion of the chain, and the availability of Gunter's chains was not great. Second, is by employing the chains and lengths of rope. By marking increments of one foot on the rope, and weighting the end, the depth of the water would not be hard to attain. This is the most probable method used in the deeper waters. Third, is the use of poles. By using an incremented pole the depth could also be attained. The method of "Poling" the water became very popular in later years. Mainly used on rivers and lakes during the eighteenth century, poling became the main means of navigation for many of the barges and steamboats. (Kell, et al, 1943) This method is the most probable when in the shallower waters close to shore, or when crossing bars that guarded most of the inlets and bays.

The boats used probably varied

from time to time with availability. However, in most cases the men had a ship of seagoing size close by for shelter, and the storage of supplies. The actual surveys were probably conducted out of small skiffs equipped with numerous oars for control and propulsion. When in the larger bays and rivers it is probable that a small schooner, ketch, or sloop was employed. This is based on the fact that in some instances the survey was halted because the boat drew too much water, and it is highly unlikely that the men oared twenty some miles up river in a small skiff. There would have been no room for storage of supplies, nor would there have been any shelter. (Kells, et al, 1943)

These two men, William DeBrahm and George Gauld, suffered unimaginable conditions in the course of their work. Yet they were able to provide maps and charts of impeccable detail and accuracy. This is truly a measure of the dedication and belief these men had in the growth and

economic success in the colonies of the southern expansion. They lived by codes of personal ethics and morality, seldom seen in today's society based on self-improvement. The attitudes of these two men toward their profession is one that the professional of today should keep in mind during the course of one's career. The overall goal is not improvement in one's social standing or acceptance, but one of advancement of society as a whole.

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# Did YOU Ever WONDER Why?

Michael Whitling, PSM

## Why it's illegal to remove a mattress tag?

If you're like some Americans, you may live in utter fear of what would happen to you if you attempted to commit the "crime" of brutally chopping off your mattress tag. That's right, the one that ominously warns, "Under penalty of law, this tag not to be removed!" If you look a little closer, you'll notice a phrase that debunks this urban legend. Three words: "except by consumer." It turns out the warning actually applies to the people who make and sell mattresses specifically, the last ones to handle the product before it gets to you, the consumer. But why all the drama about a silly little label? It's one of those things with an interesting back story that begins in the early 20th century, when mattress makers and sellers were engaging in some pretty shady business practices. At that time, mattress makers were known to cut corners by stuffing the mattresses with some pretty repulsive garbage, like discarded food, old rags, and horse hair. Inevitably, this would attract lice, bedbugs, and any number of unwelcome bed fellows. It's safe to say, these were not luxury mattresses! So the government had a bright idea to require manufacturers to attach labels to new mattresses stating all the materials used to make them. Mattress salespeople found a workaround, though: just rip off the tag and sell their bacteria-filled products to unsuspecting customers. As soon as the government caught on to these shenanigans, they required the addition of the "Do Not Remove" message to be included, by law, on every mattress tag. And the rest is pop culture history.



## Why stick handled cotton swabs called "Q-tips?"

Q-tips, those hygienic products that you can use for everything from applying ointments and creams, to cleaning hard to reach places, are staples of doctor's offices and medicine cabinets the whole world over. And I bet you like lots of other people ignore the company's warnings and use them as implements of ear-cleaning. (Really, you should never, ever use them to clean your ears.) But what does the Q mean. The product name certainly rolls off the tongue better than the generic 'cotton swab' name, that's for sure. That's because it's a quality name. A quality name that means "Quality tips." That's right, the Q stands for quality. Q-tips were first conceived by Leo Gerstenzang, who observed his wife stick bits of cotton to toothpicks. He decided that his wife had the right idea and decided to found the Leo Gerstenzang Infant Novelty Co. in 1923, which would manufacture ready to use cotton swabs. But the product wouldn't pick up its now famous name until 1926. For the first three years, the cotton swabs were called 'Baby Gays,' which the company would be modified to become 'Q-tips Baby Gays.' Eventually, they dropped 'Baby Gays' altogether and were just left with "Q-tips."

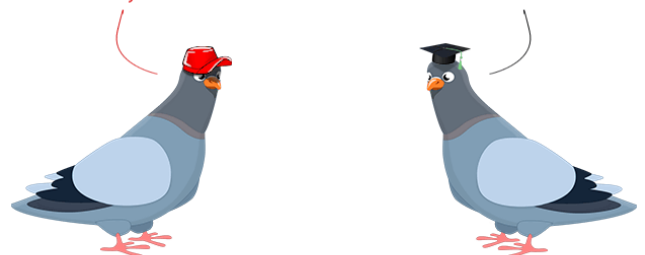


## Why is an important person referred to as a "muckety-muck?"

Muckety-muck describes someone important, especially someone who is self-important. The term is most often modified with the word high, as in high muckety-muck. Muckety-muck is derived from the Chinooks, an Indian tribe from Pacific Northwest. In the Chinook language, muckamuck means to eat food. In fact, European explorers and settlers, once used "muckamuck" to refer to food or provisions. Someone who has a great deal of food is rich and presumably holds high status in the tribe, and is called hiu muckamuck, which means has plenty of food to eat. First used as a written word around the middle of the nineteenth century, this idea filtered into the English language as high muckety-muck around 1912.

what's the  
opposite of  
muckety-muck?

lightweight, nobody, nonentity,  
nothing, shrimp, twerp,  
whippersnapper, zero, zilch,  
inferior



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**Quick Facts:**

⇒ There's an Opposite of Déjà vu and it's called "jamais vu." This phenomenon describes when you know something has happened before, but it seems unfamiliar.

⇒ Selfies kill more people than sharks. According to the International Shark Attack File, there have been just 439 fatal shark attacks worldwide since 1958. That's just 7.5 shark-related deaths per year. However, in India alone, 27 people perished from selfie-related causes in 2015.



⇒ There's a town named Santa Claus in Arizona, Georgia, and Indiana, and ones named Saint Nicholas in Florida, Michigan, Minnesota, and Pennsylvania.

⇒ There are over a million ants for every person on earth. Human count: 7.4 billion. Ant count: 10,000 trillion. Guard your picnic well.

⇒ While sad to imagine, elephants are among the few animals that bury their dead. After a member of their pack dies, elephants not only cry, but create graves for their dead and cover their bodies with leaves.



⇒ Darth Vader Never Says "Luke, I Am Your Father." While often misquoted, the Star Wars villain actually utters the phrase, "No, I am your father" in The Empire Strikes Back.

⇒ James May created a two-story house made entirely of Legos on the Denbies Wine Estate in Surrey, Great Britain. It took 3.2 million tiny plastic bricks to build.

⇒ Stubbs, an orange cat, was the mayor of Talkeetna, Alaska, for 20 years. Stubbs served until his death in 2017.

⇒ Ōkunoshima, also known as Rabbit Island, is a Japanese island that is predominantly populated by rabbits. Formerly the home of a WWII-era poison gas factory, the island is now overrun with adorable rabbits, and has become a major tourist destination.



⇒ Not only do astronauts aboard the International Space Station get the day off for Christmas, they also have presents delivered to them in space. Astronauts spend the day eating together and unwrapping gifts, and some even dress up for the occasion.

⇒ The ashes of Fredric Baur, who created the iconic Pringles can in 1966, found his eternal resting place in one when he died in 2008.



⇒ Fourteen years before Titanic's maiden voyage, author Morgan Robertson wrote a novel called The Wreck of the Titan: Or, Futility, which was about the largest ship in the world meeting disaster. The ship in the fictional story was called the Titan. Its measurements were nearly identical to Titanic, as were the speeds they were going when they met disaster. Also, both struck an iceberg on the starboard side. They also both sank in April, at the exact same location, with as few lifeboats as the law allowed.

*Send your thoughts to [drmjw@aol.com](mailto:drmjw@aol.com)*

# Around the State



On October 17-19th, representatives from the FSMS Young Surveyors Network attended the 2018 NSPS/FIG YSN North American Meeting just outside of Washington D.C.

*L to R: Levi Wilder, Britney Powell, and Chris Wild.*

On October 5th, 2018, former FSMS President (1999-2000) and current Legal Committee Chair Jack Breed was recognized as the 2018 Volunteer of the Year by the University of Florida Institute of Food and Agriculture (UF IFAS).

He was honored and presented with an award at the institute's annual Dinner of Distinction in Gainesville. Click [here](#) to view the introduction video from the presentation ceremony.

Congratulations, Jack!





# 2018 eLearning Courses



Basics of Real Property Course #8380 (3 General CEC)

**\$ 70<sup>00</sup>**



Boundaries in Florida Course #8255 (6 SOP/L&R CEC)

**\$ 120<sup>00</sup>**



Contracts for the Professional Course #8412 (3 General CEC)

**\$ 70<sup>00</sup>**



Elevation Certificates and the Community Rating System Course #8256 (3 General CEC)

**\$ 70<sup>00</sup>**



Ethics for the Design Professional Course #8621 (6 General CEC)

**\$ 120<sup>00</sup>**



Florida Laws Course #7149 (6 SOP/L&R CEC)

**\$ 120<sup>00</sup>**



Professional Ethics and Professional Courses FULL Video Course #8363 (6 General CEC)

**\$ 120<sup>00</sup>**



Georgia Technical Standards for Property Surveys Course #8554 (6 General CEC)

**\$ 120<sup>00</sup>**



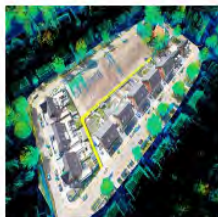
History of Surveying Course #7140 (6 General CEC)

**\$ 120<sup>00</sup>**



Identification of Native and Non-Native Trees in Florida Course #8132 (6 General CEC)

**\$ 120<sup>00</sup>**



Introduction to Photogrammetry Course #7968 (3 General CEC)

**\$ 70<sup>00</sup>**



Land Tenure and Cadastral Systems Course #8260 (6 General CEC)

**\$ 120<sup>00</sup>**



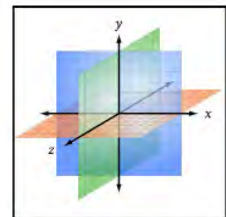
Map Projections and Plane Coordinate Systems Course #8261 (6 General CEC)

**\$ 120<sup>00</sup>**



Mean High Water Observations & Computations Course #8262 (6 General CEC)

**\$ 120<sup>00</sup>**



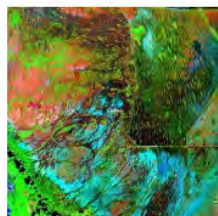
Practical Geometry for Surveyors Course #7141 (6 General CEC)

**\$ 120<sup>00</sup>**



Public Land Survey System Course #7147 (6 General CEC)

**\$ 120<sup>00</sup>**



Remote Sensing Applications to Surveying & Mapping Course #7148 (6 General CEC)

**\$ 120<sup>00</sup>**



Writing Boundary Descriptions Course #8362 (3 General CEC)

**\$ 70<sup>00</sup>**





# Correspondence Courses



## Step 1: Choose Course(s)

- 5J-17 Standards of Practice (SOP), #6962, 6 SOP/L&R CEC**
- A History of the Prime Meridian Marker, #8403, 3 General CEC**
- Basics of Real Property, #8359, 3 General CEC**
- Boundaries in Florida, #7667, 6 SOP/L&R CEC**
- Chapter 177, Platting (Plat Law), #6970, 6 SOP/L&R CEC**
- Client Satisfaction Excellence for Surveying and Mapping Professionals, #7229, 6 General CEC (Only available by mail)**
- Contracts for the Professional, #8411, 3 General CEC**
- Critical Communication for Surveying & Mapping Professionals, #7228, 6 General CEC (Only available by mail)**
- Digital Signatures for Surveyors, #8491, 3 General CEC**
- Elevation Certificates and the Community Rating System, #8257, 3 General CEC**
- Ethics for the Design Professional, #8620, 6 General CEC**
- Florida Laws, #6966, 6 SOP/L&R CEC**
- Georgia Technical Standards for Property Surveys, #8553, 6 General CEC**
- Geographic Information Systems (GIS), #7107, 6 General CEC**
- History of Surveying, #7108, 6 General CEC**
- Identification of Native and Non-Native Trees in Florida, #7874, 6 General CEC**
- Introduction to Photogrammetry, #7887, 3 General CEC**
- Land Tenure and Cadastral Systems, #7829, 6 General CEC**
- Map Projections and Plane Coordinate Systems, #7669, 6 General CEC**
- Mean High Water Observations and Computations, #8220, 6 General CEC**
- Practical Geometry for Surveyors, #7109, 6 General CEC**
- Public Land Survey System, #6979, 6 General CEC**
- Remote Sensing Applications to Surveying & Mapping, #6972, 6 General CEC**
- Stress Management for Surveyors & Mappers: How to be Productive Under Pressure, #6902, 6 General CEC (Only available by mail)**
- Time Management for Surveyors & Mappers: How to be Productive & Exercise Time Mastery in A Hectic World, #6901, 6 General CEC (Only available by mail)**
- Writing Boundary Descriptions, #8361, 3 General CEC**



# Correspondence Courses Order Form

## Step 2: Choose Member Type

**FSMS Member**

<i>EMAILED</i>		Quantity			
6 CEC	\$115 Per Course	x	_____	=	\$ _____
3 CEC	\$58 Per Course	x	_____	=	\$ _____
<i>MAILED</i>					
6 CEC	\$125 Per Course	x	_____	=	\$ _____
3 CEC	\$68 Per Course	x	_____	=	\$ _____
<b>TOTAL</b>			_____	=	\$ _____

**Non-Member**

<i>EMAILED</i>		Fee	Quantity		Amount
6 CEC	\$135 Per Course		x	_____	= \$ _____
3 CEC	\$78 Per Course		x	_____	= \$ _____
<i>MAILED</i>					
6 CEC	\$145 Per Course		x	_____	= \$ _____
3 CEC	\$88 Per Course		x	_____	= \$ _____
<b>TOTAL</b>			_____	=	\$ _____

**Non-Licensed in ANY State**

<i>EMAILED</i>		Fee	Quantity		Amount
6 CEC	\$100 Per Course		x	_____	= \$ _____
3 CEC	\$60 Per Course		x	_____	= \$ _____
<i>MAILED</i>					
6 CEC	\$110 Per Course		x	_____	= \$ _____
3 CEC	\$70 Per Course		x	_____	= \$ _____
<b>TOTAL</b>			_____	=	\$ _____

## Step 3: Payment Information

Name: \_\_\_\_\_ PSM#: \_\_\_\_\_ State: \_\_\_\_\_ FSMS Member: \_\_\_ YES \_\_\_ NO

Firm: \_\_\_\_\_ Sustaining Firm: \_\_\_ YES \_\_\_ NO

Address: \_\_\_\_\_

City/State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Email Address: \_\_\_\_\_ Work Phone: \_\_\_\_\_

Payment Information: \_\_\_\_\_ Check Enclosed (Payable to FSMS) \_\_\_\_\_ VISA/MasterCard/American Express

Card #: \_\_\_\_\_ Exp. Date: \_\_\_\_\_ Card CVV Number (3 or 4 Digits) \_\_\_\_\_

Billing Address for Credit Card: \_\_\_\_\_

Signature: \_\_\_\_\_

**IF PAYING BY CHECK, MAIL FORM TO: FSMS, P.O. Box 850001-243, Orlando, FL 32885-0243**  
**IF PAYING BY CREDIT CARD - EMAIL FORM TO [education@fsms.org](mailto:education@fsms.org) or FAX TO 850.877.4852**  
**QUESTIONS? CALL 800.237.4384**

## District 1

### Panhandle

William T. Butler  
(850) 476-4768  
wtb@butlersurveying.com

### Emerald Coast

Robert Johnson  
(850) 682-5306  
bobndee1@cox.net

### Gulf Coast

Frederic Rankin  
(850) 571-1194  
erankin@dewberry.com

### Chipola Area

Lee Anderson  
(850) 638-0790  
landerson@southeasternsurveying.com

### Northwest Florida

Chad Thurner  
(850) 200-2441  
chad@ncginc.com

## District 2

### Florida Crown

Bill Faust  
(904) 641-0123  
cfaust@drmp.com

### North Central Florida

Hal Peters  
(352) 304-9534  
hpeters@gpinet.com

### UF Geomatics

Anissa Williston  
(239) 601-2981  
anissamar12@ufl.edu

## District 3

### Central Florida

Leon Hampton  
(321) 231-4874  
leon@lhpsm.com

### Indian River

Brion Yancy  
(772) 475-7475  
byancy@martin.fl.us

### Space Coast

Joe Williamson  
(407) 873-3837  
Joew.fsms@gmail.com

### Volusia

Anthony Sanzone  
(386) 672-3633  
eastcoastland@bellsouth.net

## District 4

### Ridge

Larry Sharp  
(863) 640-9017  
lrsharp@collinssurvey.com

### Tampa Bay

Robert Breedlove  
(813) 234-0103  
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## District 5

### Charlotte Harbor

Greg Rieth  
(941) 481-1290  
greg@strayersurveying.com

### Collier-Lee

Steve Shawles  
(239) 481-1331  
sshawles@bwlk.net

### Manasota

Joseph Kelly  
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joe.kelly@stantec.com

## District 6

### Broward

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(954) 818-2610  
earl@gpserv.com

### Palm Beach

Clyde Mason  
(561) 634-6701  
clyde@mason-surveying.com

### FAU Geomatics

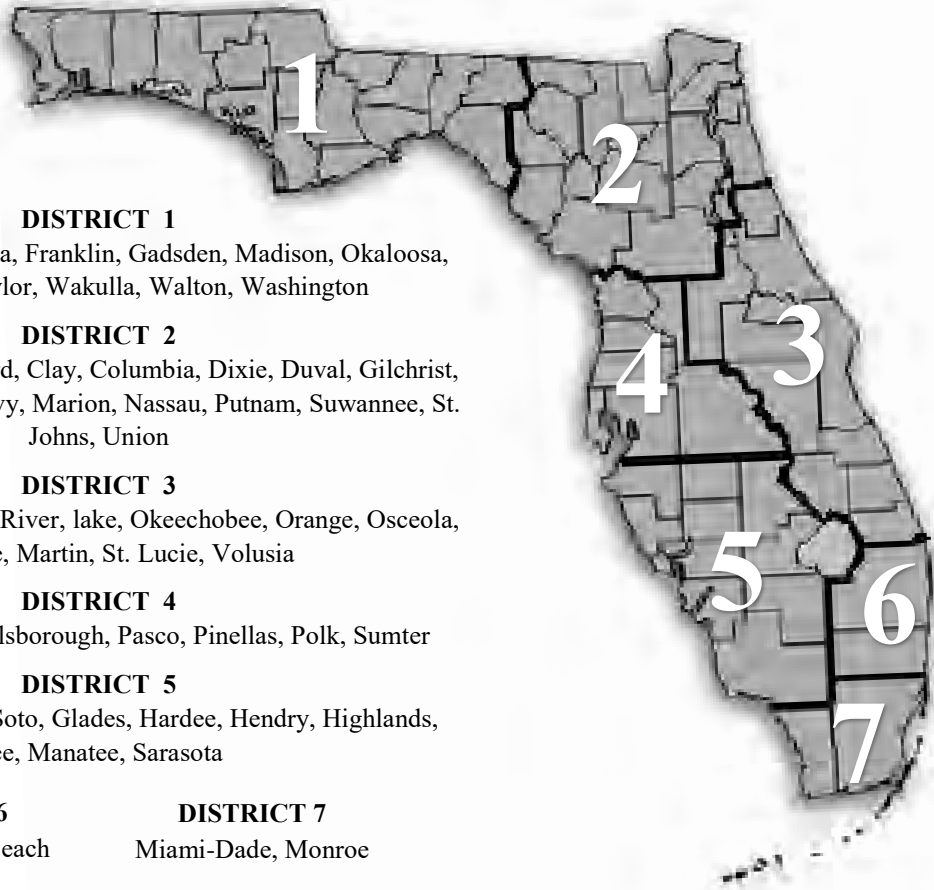
Gerardo Rojas  
(561) 297-2658  
grojas2017@fau.edu

## District 7

### Miami-Dade

Frank Paruas-Suiero  
(786) 831-2251  
fparuas@gpinet.com

# 2018 Districts and Directors



## DISTRICT 1

Bay, Calhoun, Escambia, Franklin, Gadsden, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, Washington

## DISTRICT 2

Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, Suwannee, St. Johns, Union

## DISTRICT 3

Brevard, Flagler, Indian River, Lake, Okeechobee, Orange, Osceola, Seminole, Martin, St. Lucie, Volusia

## DISTRICT 4

Citrus, Hernando, Hillsborough, Pasco, Pinellas, Polk, Sumter

## DISTRICT 5

Collier, Charlotte, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Sarasota

## DISTRICT 6

Broward, Palm Beach

## DISTRICT 7

Miami-Dade, Monroe

## District 1 - Northwest

Eric Stuart  
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Chad Thurner  
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Ralph Rhodes  
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rjr@rjrhodes.com

Jeffrey Cooner  
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jeff.cooner@cardno.com

## District 2 - Northeast

Nick Digruzzolo  
(863) 344-2330  
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Jim Sullivan  
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Rick Pryce  
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rdpryce@gmail.com

## District 5 - Southwest

## District 6 - Southeast

## District 3 - East Central

## District 7 - South

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jlperez@pesengsurv.com

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Joew.fsms@gmail.com

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mverajr@mgvera.com

Lou Campanile, Jr.  
(954) 980-8888  
lou@campanile.net

## District 4 - West Central

## NSPS Director

Greg Prather  
(863) 533-9095  
gprather@pickettusa.com

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(727) 461-6113  
Justin@polaris-survey.com

Ronnie Figueroa  
(407) 292-8580  
rfigueroa@southeasternsurveying.com

# Committees

## Standing Committees

<b>Nominating Committee</b>	Dianne Collins
<b>Membership Committee</b>	Joe Perez
<b>Finance Committee</b>	Bon Dewitt
<b>Executive Committee</b>	Bob Strayer
<b>Education Committee</b>	Don Elder
<b>Annual Meeting Committee</b>	Tom Brownell
<b>Legal Committee</b>	Jack Breed
<b>Strategic Planning Committee</b>	Dianne Collins
<b>Ethics and Professional Practice Committee</b>	John Liptak
<b>Constitution and Resolution Advisory Committee</b>	Don Elder

## Special Committees

<b>Legislative Committee</b>	John Clyatt
<b>Awards Committee</b>	Lou Campanile, Jr.
<b>UF Alumni Recruiting Committee</b>	Jeff Cooner

## Liaisons

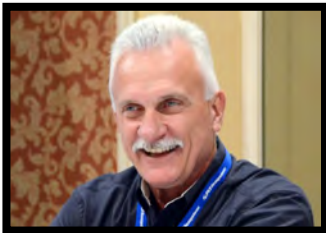
<b>CST Program</b>	Ronnie Figueroa
<b>FDACS BPSM</b>	Don Elder
<b>Surveyors in Government</b>	Richard Allen
<b>Academic Advisory UF</b>	Bon Dewitt

## Practice Sections

<b>Geospatial Users Group</b>	Allen Nobles
<b>Young Surveyor's Network</b>	Levi Wilder

# Administrative Staff

### Tom Steckler



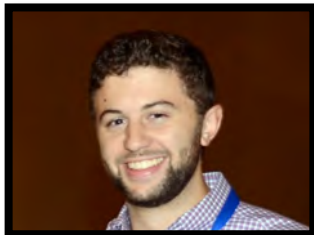
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director@fsms.org

### Rebecca Culverson



Education Director  
education@fsms.org

### Dominic Levings



Communications Director  
communications@fsms.org

### Cathy Campanile

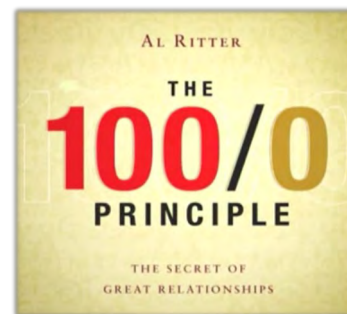


Regional Coordinator  
cathy@fsmsemail.org

# Tom's Tip of the Month

### *The 100/0 Principle*

*Click on the picture below to view the video!*



The Florida Surveyor is the official publication of the Florida Surveying and Mapping Society, Inc. (FSMS). It is published monthly for the purpose of communicating with the professional surveying community and related professions who are members of FSMS. Our award winning publication informs members eleven months of the year of national, state, and district events and accomplishments as well as articles relevant to the surveying profession. The latest educational offerings are also included.

## 2018 Sustaining Firms

Accuright Surveys of Orlando, Inc.	407-894-6314	County Wide Surveying, Inc.	850-769-0345
AGNOLI, BARBER & BRUNDAGE, INC	239-597-3111	Cousins Surveyors & Associates, Inc.	954-689-7766
AIM Engineering & Surveying, Inc.	239-332-4569	CPH, Inc.	407-322-6841
Allen & Company, Inc.	407-654-5355	Craven-Thompson & Associates, Inc.	954-739-6400
Allen Engineering, Inc.	321-783-7443	Cross Surveying, LLC	941-748-8340
Allterra	954-850-0795	Culpepper & Terpening Inc.	772-464-3537
AM Engineering, Inc.	941-377-9178	Cumbey & Fair, Inc.	727-324-1070
American Consulting Professionals, LLC	813-435-2600	Dagostino & Wood, Inc.	239-352-6085
American National Commercial Real Estate Service, LLC	239-963-2245	Dennis J. Leavy & Associates	561-753-0650
American Surveying, Inc.	813-234-0103	DMK Associates, Inc.	941-475-6596
Arc Surveying & Mapping, Inc.	904-384-8377	Donald W. McIntosh Associates, Inc.	407-644-4068
Associated Land Surveying & Mapping, Inc.	407-869-5002	Donoghue Construction Layout, LLC	321-248-7979
ATS Land Surveying, LLC	386.264.8490	Douglass, Leavy & Associates, Inc.	954-344-7994
Avirom & Associates, Inc.	561-392-2594	DRMP, Inc.	407-896-0594
Banks Engineering	239-939-5490	DSW Surveying & Mapping, PLC	352-735-3796
Barraco & Associates, Inc.	239-461-3170	Echezabal & Associates, Inc.	813-933-2505
Bartram Trail Surveying, Inc.	904-284-2224	ECHO UES, Inc.	888-778-3246
Bean, Whitaker, Lutz & Kareh, Inc.	239-481-1331	eda engineers-surveyors-planners, inc.	352-373-3541
Bello & Bello Land Surveying Corporation	305-251-9606	Eiland & Associates, Inc.	904-272-1000
Benchmark Land Services, Inc.	239-591-0778	E.F. Gaines Surveying Services, Inc.	239-418-0126
Benchmark Surveying & Land Planning, Inc.	850-994-4882	Element Engineering Group, LLC	813-386-2101
Beta Company Surveying, Inc.	941-751-6016	Engenuity Group, Inc.	561-655-1151
Betsy Lindsay, Inc.	772-286-5753	Engineering Design & Construction, Inc.	772-462-2455
Biscayne Engineering Company, Inc.	305-324-7671	England, Thims & Miller, Inc.	904-642-8990
Boatwright and Durden Land Surveyors, Inc.	904-241-8550	ER Brownell & Associates, Inc.	305-860-3866
Bock & Clark Corporation	330-665-4821	ESP Associates, Inc.	803-802-2440
Bowman Consulting Group, Ltd.	703-464-1000	Exacta Land Surveyors, Inc.	305-668-6169
Brown & Phillips, Inc.	561-615-3988	F. R. Aleman & Associates, Inc.	305-591-8777
BSE Consultants, Inc.	321-725-3674	First Choice Surveying, Inc.	407-951-3425
Buchheit Associates, Inc.	407-464-2118	Florida Engineering & Surveying, LLC	941-485-3100
Burkholder Land Surveying, Inc.	941-209-9712	FLT Geosystems	954-763-5300
Bussen-Mayer Engineering Group, Inc.	321-453-0010	Fortin, Leavy, Skiles, Inc.	305-653-4493
C&M Road Builders, Inc.	941-758-1933	FRS & Associates, Inc.	561-478-7178
Calvin, Giordano & Associates, Inc.	954-921-7781	Geodata Consultants, Inc.	407-732-6965
Cardno, Inc.	727-531-3505	Geoline Surveying, Inc.	386-418-0500
Carter Associates, Inc.	772-562-4191	Geomatics Corporation	904-824-3086
Caulfield & Wheeler, Inc.	561-392-1991	Geomni, Inc.	904-758-2601
Causseaux, Hewett & Walpole, Inc.	352-331-1976	GeoPoint Surveying, Inc.	813-248-8888
Central Florida Surveys, Inc.	407-262-0957	George F. Young, Inc.	727-822-4317
Chastain-Skillman, Inc.	863-646-1402	Geosurv, LLC	877-407-3734
CivilSurv Design Group, Inc.	863-646-4771	Germaine Surveying, Inc.	863-385-6856
Clary & Associates, Inc.	904-260-2703	Global One Survey, LLC	786-486-8088
CLEMENTS SURVEYING INC	941-729-6690	GPI Geospatial, Inc.	407-851-7880
Collins Survey Consulting, LLC	863-937-9052	GPServ, Inc.	407-601-5816
Compass Engineering & Surveying, Inc.	727-822-4151	Gustin, Cothorn & Tucker, Inc.	850-678-5141
Compass Point Surveyors, PL	954-332-8181	H. L. Bennett & Associates, Inc.	863-675-8882
Control Point Associates FL, LLC	908-668-0099	Hamilton Engineering & Surveying, Inc.	813-250-3535
		Hanson Professional Services, Inc.	217-788-2450

## 2018 Sustaining Firms

Hanson, Walter & Associates, Inc.	407-847-9433	PEC - Survey & Mapping, LLC	407-542-4967
Hayhurst Land Surveying, Inc.	772-569-6680	Pennoni Associates, Inc.	215-222-3000
Hole Montes, Inc.	239-254-2000	Pickett & Associates, Inc	863-533-9095
Honeycutt & Associates, Inc.	321-267-6233	PITTMAN GLAZE & ASSOCIATES INC	850-434-6666
Hutchinson, Moore & Rauch, LLC	251-626-2626	Platinum Surveying & Mapping, LLC	863-904-4699
Hyatt Survey Services, Inc.	941-748-4693	Point Break Surveying, LLC	941-378-4797
I.F. Rooks & Associates, Inc.	813-752-2113	Point to Point Land Surveyors, Inc.	678-565-4440
Inframap Corporation	804-550-2937	Polaris Associates, Inc.	727-461-6113
John Ibarra & Associates, Inc.	305-262-0400	Porter Geographical Positioning & Surveying, Inc.	863-853-1496
John Mella & Associates, Inc.	813-232-9441	Pulice Land Surveyors, Inc.	954-572-1777
Johnson, Mirmiran & Thompson, Inc.	813-314-0314	Q Grady Minor & Associates, PA	239-947-1144
Johnston's Surveying, Inc.	407-847-2179	R.J. Rhodes Engineering, Inc.	941-924-1600
Jones, Wood & Gentry, Inc.	407-898-7780	R.M. Barrineau & Associates, Inc.	352-622-3133
Keith & Associates, Inc.	954-788-3400	Reece & White Land Surveying, Inc.	305-872-1348
Keith & Schnars, P.A.	954-776-1616	Rhodes & Rhodes Land Surveying, Inc.	239-405-8166
Kendrick Land Surveying	863-533-4874	Richard P. Clarson & Associates, Inc.	904-396-2623
King Engineering Associates, Inc.	813-880-8881	Riegl USA	407-248-9927
Kuhar Surveying & Mapping, LLC	386-672-0002	Robayna and Associates, Inc.	305-823-9316
L&S DIVERSIFIED, LLC	407-681-3836	Robert M. Angas Associates, Inc.	904-642-8550
Landmark Engineering & Surveying Corporation	813-621-7841	Rogers, Gunter, Vaughn Insurance, Inc.	850-386-1111
Leading Edge Land Services, Inc.	407-351-6730	S&ME, INC.	407-975-1273
Leiter Perez & Associates, Inc.	305-652-5133	SAM Surveying and Mapping, LLC	512 447-0575
Leo Mills & Associates, Inc.	941-722-2460	Sergio Redondo & Associates, Inc.	305-378-4443
Long Surveying, Inc.	407-330-9717	SETTIMIO CONSULTING SERVICES	850-341-0507
Ludovici & Orange Consulting Engineers, Inc.	305-448-1600	Shah Drotos & Associates, PA	954-943-9433
MacSurvey, Inc.	727-725-3269	Shannon Surveying, Inc.	407-774-8372
Manuel G. Vera & Associates, Inc.	305-221-6210	Sherco, Inc.	863-453-4113
Mapping Resource Group, Inc.	386-439-4848	Southeastern Surveying & Mapping Corporation	407-292-8580
Marco Surveying & Mapping, LLC	239-389-0026	Spalding DeDecker Associates, Inc.	248-844-5400
Maser Consulting, P.A.	813-207-1061	Stephen H. Gibbs Land Surveyors, Inc.	954-923-7666
Massey-Richards Surveying & Mapping, LLC	305-853-0066	Stoner & Associates, Inc.	954-585-0997
Masteller, Moler & Taylor, Inc.	772-564-8050	Strayer Surveying & Mapping, Inc.	941-497-1290
McKim & Creed, Inc.	919-233-8091	Suarez Surveying & Mapping, Inc.	305-596-1799
MCLAUGHLIN ENGINEERING, CO	954-763-7611	SurvTech Solutions, Inc.	813-621-4929
Metron Surveying and Mapping, LLC	239-275-8575	Thurman Roddenberry & Associates, Inc.	850-962-2538
Mock Roos & Associates, Inc.	561-683-3113	Tradewinds Surveying Services, LLC	863-763-2887
Moore Bass Consulting, Inc.	850-222-5678	Tuck Mapping Solutions, Inc	276-523-4669
Morris-Depew Associates, Inc.	239-337-3993	Upham, Inc.	386-672-9515
Murphy's Land Surveying, Inc.	727-347-8740	Van Kleeck	386-761-5385
Navigation Electronics, Inc.	337-237-1413	Wade Surveying, Inc.	352-753-6511
Northstar Geomatics, Inc.	772-485-1415	Wallace Surveying Corporation	561-640-4551
Northwest Surveying, Inc.	813-889-9236	Wantman Group, Inc.	561-687-2220
NV5	407-896-3317	WBQ Design & Engineering, Inc.	407-839-4300
Oceanside Land Surveying, LLC	386-763-4130	Winningham & Fradley, Inc.	954-771-7440
Omni Communications, LLC	813-852-1888	Woolpert, Inc.	937-461-5660
On the Mark Surveying, LLC	321-626-6376	York & Associates Engineering, Inc.	229-248-0141
		ZNS Engineering, LC	941-748-8080

# Additional Information

## Upcoming Events

**December 1, 2018**

Manasota Chapter Charity Clay Shoot  
*Nokomis*

**December 8, 2018**

CST Exam at FAU  
*Boca Raton*

**January 11, 2018**

FSMS Board Meeting  
*Lakeland*

## Past Presidents

<b>1956</b>	Robert S. Harris	Gordon R. Niles, Jr.
H.O. Peters	Paul T. O'Hargan	Dennis E. Blankenship
Harry C. Schwebke	William G. Wallace, Jr.	W. Lanier Mathews, II
John P. Goggin	Robert W. Wigglesworth	Jack Breed
R.H. Jones	<b>1980</b>	<b>2000</b>
<b>1960</b>	Ben P. Blackburn	Arthur A. Mastronicola
Hugh A. Binyon	William B. Thompson, II	Michael H. Maxwell
Russell H. DeGrove	John R. Gargis	John M. Clyatt
Perry C. McGriff	Robert A. Bannerman	David W. Schryver
Carl E. Johnson	H. Bruce Durden	Stephen M. Gordon
James A. Thigpenn, III	Buell H. Harper	Richard G. Powell
Harold A. Schuler, Jr.	Jan L. Skipper	Michael J. Whiting
Shields E. Clark	Steven M. Woods	Robert W. Jackson, Jr.
Maurice E. Berry II	Stephen G. Vrabel	Pablo Ferrari
William C. Hart	W. Lamar Evers	Steve Stinson
Frank R. Schilling, Jr.	<b>1990</b>	<b>2010</b>
<b>1970</b>	Joseph S. Boggs	Dan Ferrans
William V. Keith	Robert L. Graham	Jeremiah Slaymaker
James M. King	Nicholas D. Miller	Ken Glass
Broward P. Davis	Loren E. Mercer	Russell Hyatt
E.R. (Ed) Brownell	Kent Green	Bill Rowe
E.W. (Gene) Stoner	Robert D. Cross	Dale Bradshaw
Lewis H. Kent	Thomas L. Conner	Lou Campanile, Jr.

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