The Florida Surveyor

Volume XXVI, Issue 7

July 2018

The FSMS "Declaration of Independence"

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A publication of the Florida Surveying and Mapping Society since 1992

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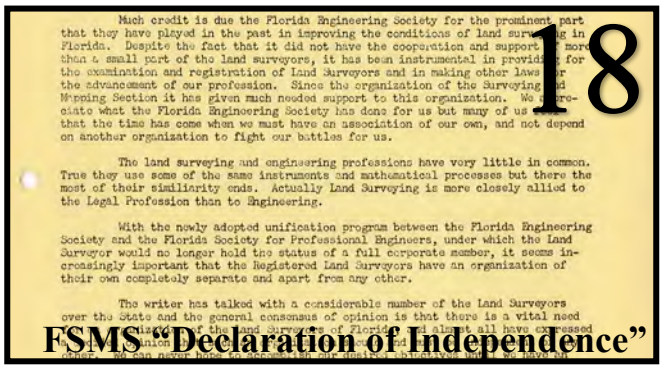

Cover Photo: Stephen Tabone

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President's Message

Summer sure does comes hot and fast here in Florida, and I hope everyone is enjoying some time off for summer vacation and family. Working and playing outdoors in Florida during the summer months is something we surveyors are very used to. Always remember to cover up or wear sunscreen while out in the sun, and have plenty of water around to keep hydrated during activities. This is something to always think about when with your field crews and family.

We continue to be very busy working for this Society and the surveying and mapping profession in Florida. The FSMS office is steadily receiving new and renewed memberships each week and our new website is attracting more activity and generating more advertising opportunities. Remember to thank and support the companies who so graciously support this profession and our businesses in Florida. One of the key benefits of a professional society such as ours is the networking and support of one another. The more that we join together and support each other in this profession, the better and stronger our daily business and lives will be.

Thank you to all that have stepped up to volunteer and serve this Society in the coming year. Our slate of Officers and District Directors for the state has been filled and many chapters are in the process of filling new positions on a chapter level as well. If you have been considering getting involved with your business and profession, there is no better way than volunteering to work for the association that has your back.

Every surveyor and mapper throughout Florida benefits from what FSMS does every single day. These duties range from working with the Board of Professional Surveyors & Mappers on revising and protecting our Standards of Practice and statutes, to monitoring legislative changes that could negatively affect our businesses. Over the years, members of this Society have raised hundreds of thousands of dollars for scholarships for geomatics students, and supported the largest CST program in the country. We work together with local fundraisers to fund scholarships, the FSMPAC and disaster-relief efforts. As I write this message today, we must all remember that we contribute to our Society to either give back or pay forward for the many blessings we have each day.

The 63rd Annual FSMS conference is coming up just around the corner on August 15th – 18th and it is shaping up to be another great one! Our room block is filling up, so get your reservations in now as the cut-off date to receive the discounted room price is July 12th. Please consider taking a few days off to join us for some great fellowship, fantastic seminars, and family and social time on the beach in St. Pete.

My condolences, thoughts and prayers go out to all of my FSMS friends and family that have lost loved ones this year. It is never easy to move on after the passing of a family member, but rest assured, we will all be reunited again in a much better place. Never let a day go by without being positive, respectful, thankful, caring, loving and forgiving to all that you meet every day -- especially your family.

"In the end, all journeys are spiritual. So go off the main road. Be givers of hospitality and gracious takers of it too. Accept the serendipitous moments of life because, when all is said and done, you may find out that they were not serendipitous at all. And know that faith is as real as bread broken among friends. What you believe will take you far on your journey. If you search carefully, you will find good food all along the way." -Alton Brown

Bob Strayer, Jr,
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63rd Annual FSMS Conference

August 15-18th
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Click here to download the registration form. Entries must be received by July 13th.

For more information, contact Jennifer Sheppard (jsheppard@bankseng.com) or Curtis Marshall (cmarshall@bwlk.net).

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Reminiscences of an Old Surveyor

Other Equipment

Part I

Knud E. Hermansen, PLS, PE, PhD, Esq.

This is the third and last article on surveying equipment and procedures that are now relegated to history. I have been surveying for around half a century. I started before electronic distance measuring was common. Transits and steel tapes were the prevailing equipment found in a survey firm. Metal detectors were rare. As a result, I have had experience with surveying equipment that will never be used again by the modern surveyor.

My two previous articles have discussed taping, the compass, and the transit. I shall now delve into other procedures and equipment known and used in historical surveys of which I often took part.

Plane Table – In the early mapping surveys I often participated in, we used the plane table and alidade to prepare a site map and topographic map while in the field. In the days before computers, the plane table was an excellent tool to prepare an accurate map in a hasty manner. I have been told that almost all the soil maps prepared in the 1920s and 1930s were done using the plane table and alidade. I had not made my debut on the surveying field at this time so I have no first-hand knowledge of the accuracy of this information.

The plane table was a large board, the dimensions of which I can no longer remember. It was the size of a typical drawing board that engineering and surveying students once had to purchase when studying in their major. This board was mounted on a tripod. The board came with the tripod mounting ring fastened to the underside of the board. The mounting ring was of a size that was equivalent to the transit mounting ring. The board, once mounted on the tripod, was set up at waist level. There was no attempt to plumb this over a known station though I suppose there were situations when this should be done. It was possible to do so.

A large sheet of paper was fastened to lay flat on the top of this board using tape or tacks. The alidade was then placed on the board, atop the paper. I suppose an alidade could be described as a transit scope fastened to a flat scale – the scope being above and parallel to the long length of the scale. Somewhere on the scale was a bubble that was used to level the drafting board or plane table.

With the plane table leveled, a long shanked pin was inserted through the paper into the board. The represented the observer's position. The mapping of the area could now begin.

The rodman, armed with a stadia board, would hold the stadia board at a point to be located by the person at the plane table. Using the stadia hairs apparent when viewing through the scope in the alidade, the distance from the alidade to the stadia board would be determined. On the plane table, the scaled distance would be measured from the long-shanked pin along the edge of the alidade where a point would be marked and labeled on the paper. The orientation of the scale's edge on the alidade being the same direction as the scope is pointing. This procedure was repeated numerous times until the surveyor was satisfied the paper fastened to the plane table was complete with the information necessary for the map being produced on the plane table.

Elevations could be obtained by the simple expediency of setting the alidade level using a scope bubble for this purpose. Most alidades had a plate and Vernier to read a vertical angle that would allow the elevation to be determined by trigonometry. Many alidades had what is known as a Beaman scale that would allow calculations without having to look up trig values. I will omit discussing the Beaman scale and how it was used. In truth, I would be rather rusty in remembering how to use it after more than four dec-

ades without practice.

The end result is that the survey crew returned to the office with a completed map of the area often including contour lines. The only consistent fault I found with the plane table was the fact that survey work on a hot summer day using a graphite pencil often left the map sheet covered with smudges.

Stadia Board – I have mentioned the stadia board when speaking of using the plane table. The stadia board can be visualized as a level rod with much larger graduations. The stadia board was somewhat wider than a level rod in order to accommodate the larger graduations. The larger graduations allowed for seeing the rod at longer distances.

I suppose reading stadia distances is a lost art. It was a rather simple procedure unless there was trig involved. The difference in the rod readings between the upper stadia wire or hair and lower stadia hair was obtained and multiplied by 100 giving the distance in feet, assuming the stadia board was so marked in feet and decimal parts of a foot. I will confess to reading the stadia rod at ranges that I could only read half of the stadia rod – that is using only the center wire and top wire or bottom wire. In such cases the interval between the middle and upper or lower stadia hair was multiplied by two before multiplying by 100.

In theory if the stadia rod could be read to the nearest 0.01 of a foot, the horizontal distance could be calculated to the nearest foot. Conversely, if the instrument operator made an error reading of 0.01 of a foot, the horizontal distance would be in error by a foot. This precision was acceptable for most mapping projects.

I will say that I met more than one old surveyor that laid off subdivision lots using stadia to the annoyance of the modern surveyor who finds the distances between corner monuments varying by as much as two feet with no consistency in the error that would allow a dependable deficiency or an overage to be applied when retracing the lot boundaries. Perhaps I have solved a mystery involving some old subdivisions and corners found.

Heliotrope – I will comment briefly about the heliotrope though it's use in private practice was very limited. The heliotrope was an elongated target, fasted to a tripod, and plumbed over a point. The heliotrope I used was composed of two rings along the elongated board with a mirror at the end farthest from the instrument observing the heliotrope. One heliotrope I used actually had two mirrors that allowed the sun's light to be bounced from the sun using the first mirror of the heliotrope to the mirror in the back of the heliotrope that then reflected the sun's beam through the two rings to the observer. The double mirrors was required if the sun was behind the heliotrope as it was pointed toward the instrument. The rings in the heliotrope were aimed at an observer standing behind an instrument that was being used to measure angles. The mirror at the rear was adjusted to reflect the sunlight down through the rings toward the instrument operator producing a bright light for the observer to aim upon. Given the sun's apparent movement, the person at the heliotrope had to continuously adjust the mirror. I was always impressed that when standing at the instrument, I could see the bright light reflected by mirror on the heliotrope for up to 30 miles away in some cases.

Subtense Bar – I suppose the subtense bar I used from time to time was more common than a heliotrope in private practice but not by much. The subtense bar appears as a much shortened level rod rotated from the vertical to be horizontal or roughly parallel to the ground. The subtense bar was mounted in its center on to the top of a tripod. The tripod was centered over a traverse station or control point. From one end of the bar to the other was a known distance. The subtense bar that I used had a sight tube in the center. The bar was rotated about the tripod top until the sight tube was centered on the instrument operator. This would put the length of the subtense bar perpendicular to a line between the subtense bar and instrument. The instrument operator would measure the angle between the ends of the subtense bar. Using trigonometry, the distance between the instrument and subtense bar could be calculated. The accuracy of the distance was a direct function of the accuracy in measuring the angle. The subtense bar was a very useful tool in measuring those distances that could not be taped. I would often use the subtense bar in measuring distances across water bodies. I also used it from time to time when I did not have an extra person to help me tape the distance.

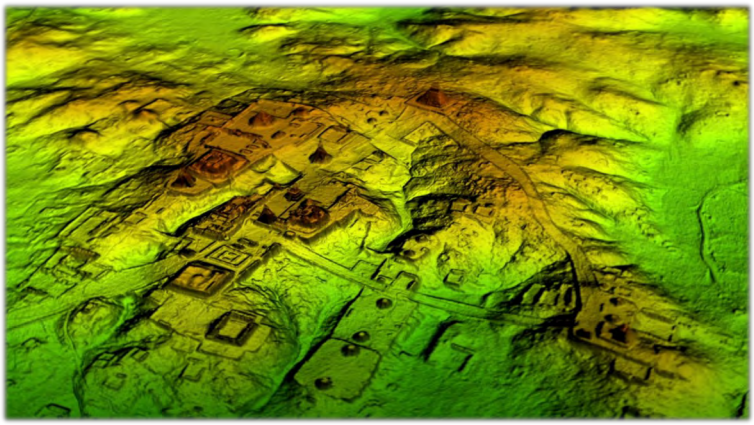
Plumb Bob – I will repeat my statement from my first article and say that I don't believe a plumb bob can be found among the equipment of the modern surveyor. The plumb bob was necessary for taping. It was necessary to hang the plumb bob under the tripod in order to place the instrument over the point, there being no optical plummets on survey equipment at the time. Finally, the plumb bob was required to give back sights and fore sights over marks and monuments in the field. I have heard of more than one employer that docked the pay of an employee that forgot to bring their plumb bob to the field.

The use of the plumb bob would seem rather easy but it was not. Consider my previous explanation on the use of the plumb bob when taping. Hanging the plumb bob under the tripod to allow the instrument to be centered over a mark required the person to have mastered the art of a slip knot. A slip knot allowed the plumb bob to be raised or lowered depending on the adjustment of the tripod legs and how close over the mark was necessary to aim the point of the plumb bob. To use other than a slip knot caused a knot to be left in the string. A knot in a plumb bob string was a crime commiserate with wanton destruction of property.

The person had to be adept at wrapping the string around the head of the plumb bob. The wrapped string was fastened in such a manner that a tug at the string's end would unwind the string without leaving a knot. Many surveyors purchased gammon reels that alleviated this task.

Exclusive: Laser Scans Reveal Maya "Megalopolis" Below Guatemalan Jungle

A vast, interconnected network of ancient cities was home to millions more people than previously thought.



Laser technology known as LiDAR digitally removes the forest canopy to reveal ancient ruins below, showing that Maya cities such as Tikal were much larger than ground-based research had suggested.
COURTESY WILD BLUE MEDIA/NATIONAL GEOGRAPHIC

By **Tom Clynes**
Published February 1, 2018

Using a revolutionary technology known as LiDAR (short for "Light Detection And Ranging"), scholars digitally removed the tree canopy from aerial images of the now-unpopulated landscape, revealing the ruins of a sprawling pre-Columbian civilization that was far more complex and interconnected than most Maya specialists had supposed.

"The LiDAR images make it clear that this entire region was a settlement system whose scale and population density had been grossly underestimated," said Thomas Garrison, an Ithaca College archaeologist and National Geographic Explorer who specializes in using digital technology for archaeological research.

Garrison is part of a consortium of researchers who are participating in the project, which was spearheaded by the PACUNAM Foundation, a Guatemalan nonprofit that fosters scientific research, sustainable development, and cultural heritage preservation.

The project mapped more than 800 square miles (2,100 square kilometers) of the Maya Biosphere Reserve in the Petén region of Guatemala, producing the largest LiDAR data set ever obtained for archaeological research.

The results suggest that Central America supported an advanced civilization that was, at its peak some 1,200 years ago, more comparable to sophisticated cultures such as ancient Greece or China than to the scattered and sparsely populated city states that ground-based research had long suggested.

In addition to hundreds of previously unknown structures, the LiDAR images show raised highways connecting urban centers and quarries. Complex irrigation and terracing systems supported intensive agriculture capable of feeding masses of workers who dramatically reshaped the landscape.

The ancient Maya never used the wheel or beasts of burden, yet "this was a civilization that was literally moving mountains," said Marcello Canuto, a Tulane University archaeologist and National Geographic Explorer who participated in the project.

"We've had this western conceit that complex civilizations can't flourish in the tropics, that the tropics are where civilizations go to die," said Canuto, who conducts archaeological research at a

Guatemalan site known as La Corona. “But with the new LiDAR-based evidence from Central America and [Cambodia’s] Angkor Wat, we now have to consider that complex societies may have formed in the tropics and made their way outward from there.”

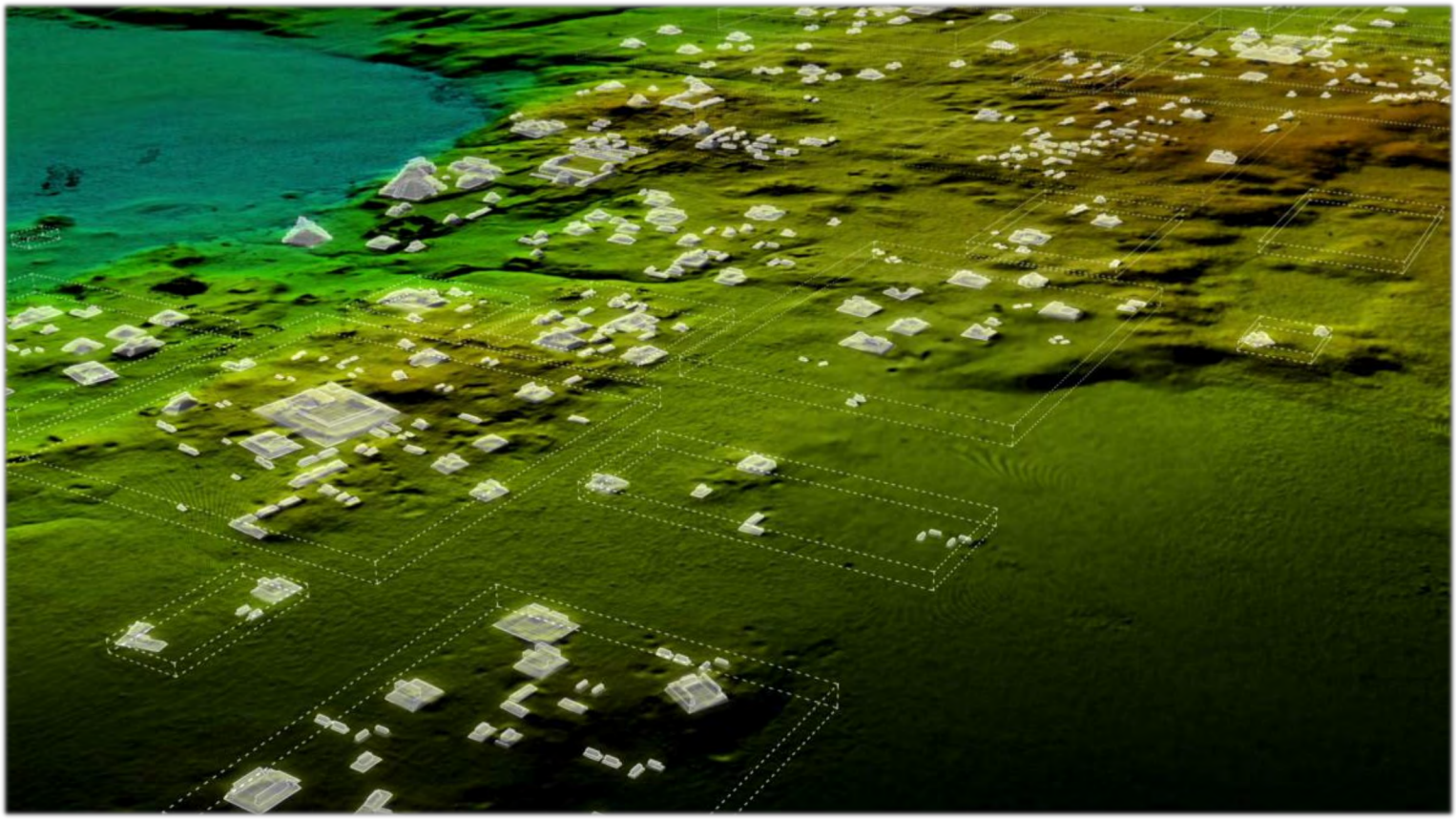
SURPRISING INSIGHTS

“LiDAR is revolutionizing archaeology the way the Hubble Space Telescope revolutionized astronomy,” said Francisco Estrada-Belli, a Tulane University archaeologist and National Geographic Explorer. “We’ll need 100 years to go through all [the data] and really understand what we’re seeing.”

Already, though, the survey has yielded surprising insights into settlement patterns, interurban connectivity, and militarization in the Maya Lowlands. At its peak in the Maya classic period (approximately A.D. 250–900), the civilization covered an area about twice the size of medieval England, but it was far more densely populated.

The unaided eye sees only jungle and an overgrown mound, but LiDAR and augmented reality software reveal an ancient Maya pyramid.

COURTESY WILD BLUE MEDIA/NATIONAL GEOGRAPHIC



Laser scans revealed more than 60,000 previously unknown Maya structures that were part of a vast network of cities, fortifications, farms, and highways.

COURTESY WILD BLUE MEDIA/NATIONAL GEOGRAPHIC

“Most people had been comfortable with population estimates of around 5 million,” said Estrada-Belli, who directs a multi-disciplinary archaeological project at Holmul, Guatemala. “With this new data it’s no longer unreasonable to think that there were 10 to 15 million people there—including many living in low-lying, swampy areas that many of us had thought uninhabitable.”

Virtually all the Mayan cities were connected by causeways wide enough to suggest that they were heavily trafficked and used for trade and other forms of regional interaction. These highways were elevated to allow easy passage even during rainy seasons. In a part of the world where there is usually too much or too little precipitation, the flow of water was meticulously planned and controlled via canals, dikes, and reservoirs.

Among the most surprising findings was the ubiquity of defensive walls, ramparts, terraces, and fortresses. “Warfare wasn’t only happening toward the end of the civilization,” said Garrison. “It was large-scale and systematic, and it endured over many years.”

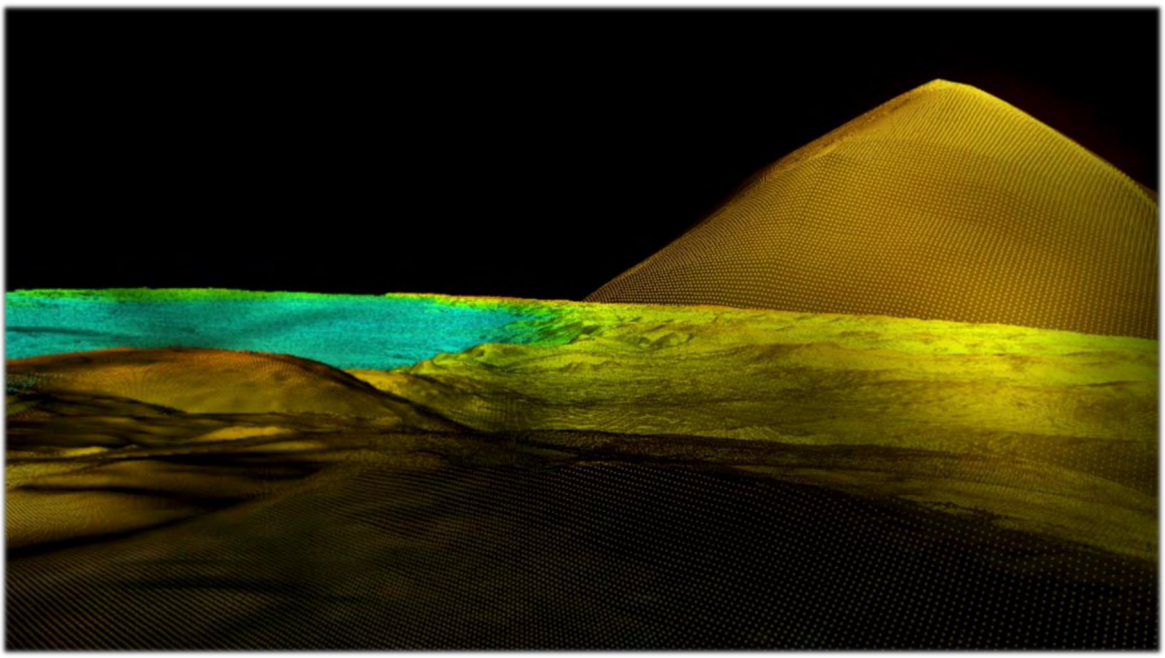
The survey also revealed thousands of pits dug by modern-day looters. “Many of these new sites are only new to us; they are not new to looters,” said Marianne Hernandez, president of the PACUNAM Foundation. (Read "Losing Maya Heritage to Looters.")

Environmental degradation is another concern. Guatemala is losing more than 10 percent of its forests annually, and habitat loss has accelerated along its border with Mexico as trespassers burn and clear land for agriculture and human settlement.

“By identifying these sites and helping to understand who these ancient people were, we hope to raise awareness of the value of protecting these places,” Hernandez said.

The survey is the first phase of the PACUNAM LiDAR Initiative, a three-year project that will eventually map more than 5,000 square miles (14,000 square kilometers) of Guatemala’s lowlands, part of a pre-Columbian settlement system that extended north to the Gulf of Mexico.

“The ambition and the impact of this project is just incredible,” said Kathryn Reese-Taylor, a University of Calgary archaeologist and Maya specialist who was not associated with the PACUNAM survey. “After decades of combing through the forests, no archaeologists had stumbled across these sites. More importantly, we never had the big picture that this data set gives us. It really pulls back the veil and helps us see the civilization as the ancient Maya saw it.”



Hidden deep in the jungle, the newly-discovered pyramid rises some seven stories high but is nearly invisible to the naked eye.

PHOTOGRAPH BY WILD BLUE MEDIA/NATIONAL GEOGRAPHIC

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Did you Ever WONDER Why?

Michael Whitling, PSM

Why is the right side of a ship called the "starboard" and the left side called "port?"
Back a couple thousand years ago many ships (very large boats) were powered by slaves rowing. This type of vessel was steered by a big oar at the rear of the boat. This oar was called the "steer board". The person that controlled the steer board would stand to the right side of the board, so that side of the ship became known as the steer board side. Over centuries of sailing jargon, it became known as the "starboard" side of the ship. The easiest way to remember which side is which is, left has four letters just as "port" does. Therefore the other side has to be the "starboard" side. Most ships also had a "Load Board" used for loading cargo. The "Load Board," or "Larboard," was fitted to the left side of a ship. To put the "starboard" side to the pier would risk damage to the "Steer Board," so ships generally put the left side to the pier. And so, the sailors called the left side of the ship the "Larboard" side. Accordingly, the left side of the ship was usually facing the "Port" where they would load or unload cargo. After years of confusion between the "Larboard" and "Starboard" sides of the ship, especially when yelling it over the wind and waves, the term "Larboard" was replaced by the term "port." This change occurred in the mid 1800's. The United States Navy officially changed its terminology to "port" and "starboard" in about 1846.

Why is a gullible person called a "sap."
For such a small word, "sap" has a lot of juice. "Sap" comes from the Old English word *saep* meaning juice; the circulating fluid of a plant, or any vital body fluid. As a verb, "sap" means to drain the "sap" from. Combining that and "sap" being a vital body fluid, we get the notion of sapping someone's energy or strength. "Sap" as a gullible person comes from *sapwood,* the soft wood between the bark and the harder inner trunk of a tree. In the 1800's English schoolboy slang would call a simpleton a *sapskull* or *saphead,* later shortened to just a "sap." "Sap" as a stick for hitting comes from a *sapling,* a soft young tree. And finally, and little known, "sap" is also a deep narrow trench constructed to form an approach to an enemy's position in battle.

Why is a small person called a "shrimp?"
"Shrimp" used as a word for a "slender, edible marine crustacean," and for a "puny person" came to be about the same time in the 1300's. "Shrimp" came from the Old English *scrimman* "to shrink;" and later from the Middle High German *schrimpfen* "to contract." In England in the 1600's an especially puny person might be called a shrimplet.

Quick Facts:

⇒Oranges may be a classic fruit, but they are not actually a naturally occurring one. Fact: the sweet fruits we love are actually a hybrid of tangerines and pomelos, also known as “Chinese grapefruit,” which is a pale green or yellow color. Originally cultivated in Southeast Asia, they were originally green before the skin turned orange in warmer climates.

⇒Florida and oranges go way back—in what is now Florida, Spanish explorer Juan Ponce de Leon planted the first orange tree in 1513. Five centuries later, the product continues to thrive in the Sunshine State.

⇒The Romans made their coins in the temple of Juno Moneta, the goddess of marriage and women. From the name Moneta, we get our words "mint" and "money."

⇒Credit cards were first used in the 1920s. Hotels were the first to offer cards to their customers to pay for their hotel stays. Soon department stores and gas companies offered their own cards. All these cards, however, could be used only at the business that issued them. Then Diner Card arrived in 1950s and could be used at different restaurants and hotels. In 1951, some banks began issuing credit cards that could be used at different places.

⇒The familiar bowler hat may look fashionable, but it began as a purely practical item—a riding helmet meant to protect riders from branches and other obstacles. It was designed by London hatmakers Thomas and William Bowler—hence, the name.

⇒The Great Lakes have a combined area of 94,230 square miles - larger than the states of New York, New Jersey, Connecticut, Rhode Island, Massachusetts, and Vermont combined.

⇒It takes your food seven seconds to get from your mouth to your stomach.

⇒1600 pairs of rubber ears and feet were used during the filming of The Lord of the Rings trilogy.

⇒Green beans, cabbage, cauliflower, celery, cucumber, lettuce, zucchini, onion, pumpkin, tomatoes are packed with vitamins and minerals but contain more than 90% water!

⇒Edgar Allan Poe introduced mystery fiction's first fictional detective, Auguste C. Dupin, in his 1841 story, "The Murders in the Rue Morgue."

⇒One of the earliest uses—perhaps the earliest use—of the acronym “O.M.G” appears in a letter to Winston Churchill. In 1917, retired Admiral of the British Navy John Arbuthnot Fisher wrote to Churchill (then a British Member of Parliament) about rumors he had heard about new titles that would soon be bestowed. “I hear that a new order of Knighthood is on the tapis,” he wrote. “O.M.G. (Oh! My God!)—Shower it on the Admirality!!”

⇒It took five months to get word back to Queen Isabella about the voyage of Columbus, two weeks for Europe to hear about Lincoln's assassination, and only 1.3 seconds to get the word from Neil Armstrong that man can walk on the moon.

⇒Termites eat through wood two times faster when listening to rock music.

⇒The following content list describes the breathtaking treasure and different types of objects, many of which were made of pure gold and silver and encrusted with precious jewels, which were found in King Tut's Tomb: Jewelry including Bracelets, Anklets, Buckles, Scarabs, Amulets, Pendants, Pectorals, Necklaces, Earrings, Collars, Ear Studs and Rings, 6 Chariots, Couches, Chairs. 2 Thrones, Ritual beds and Headrests, Anthropoid (man-shaped) Gilded Coffins and the Solid Gold coffin, Shrines, Funeral Equipment, Gilded statues - Anubis and life size sentry statues and other statuettes, Chests, Daggers and other weapons and shields, Musical Instruments, Scribal Equipment, Lamps, Ornaments, Caskets, Vases and jars, 139 ebony, ivory, silver, and gold walking sticks, Clothing made of the finest linen - 50 garments including tunics, kilts, gloves, scarves and headdresses, Ostrich fans and Golden Fans, Games - Ebony gaming boards, Food and Wine - 30 jars of wine, Perfume, oils and ointments. Today’s value, $750 million dollars.

Send your thoughts to drmjw@aol.com

From 1954: The "Declaration of Independence" letter written by FSMS founder H.O. Peters. In this letter, Peters argues that land surveyors in Florida should break away from engineers and form a separate society.

1954

To all Florida Land Surveyors -

Gentlemen:

The Surveying and Mapping Section of the Florida Engineering Society was organized in 1950 with the formal adoption of a constitution and by-laws which set forth the aims, purposes and objectives of the Section. These objectives are excellent and some good has been accomplished along these lines even though all too little interest has been shown in the organization by the profession as a whole. The original membership in the Section of approximately 50 has remained practically static, in numbers, since it was formed. With some 500 registered Land Surveyors in Florida, probably one half of which are actively engaged in land surveying, our present small organization cannot hope to be truly representative of the Land Surveyors in the State. Before we can be really effective we must have in our organization a majority of those practicing the profession in Florida.

Much credit is due the Florida Engineering Society for the prominent part that they have played in the past in improving the conditions of land surveying in Florida. Despite the fact that it did not have the cooperation and support of more than a small part of the land surveyors, it has been instrumental in providing for the examination and registration of Land Surveyors and in making other laws for the advancement of our profession. Since the organization of the Surveying and Mapping Section it has given much needed support to this organization. We appreciate what the Florida Engineering Society has done for us but many of us feel that the time has come when we must have an association of our own, and not depend on another organization to fight our battles for us.

The land surveying and engineering professions have very little in common. True they use some of the same instruments and mathematical processes but there the most of their similiarity ends. Actually Land Surveying is more closely allied to the Legal Profession than to Engineering.

With the newly adopted unification program between the Florida Engineering Society and the Florida Society for Professional Engineers, under which the Land Surveyor would no longer hold the status of a full corporate member, it seems increasingly important that the Registered Land Surveyors have an organization of their own completely separate and apart from any other.

The writer has talked with a considerable number of the Land Surveyors over the State and the general consensus of opinion is that there is a vital need for an organization of the Land Surveyors of Florida, and almost all have expressed a decided opinion that such an organization should and must be independent of any other. We can never hope to accomplish our desired objectives until we have an organization of our own, devoted exclusively to the improvement and advancement of the profession of Land Surveying in the State of Florida.

It is the writer's opinion that such an organization should be a militant one with definite aims, purposes and standards for the betterment of the profession. One that will aid and assist all members of the profession in improving their work, their public relations and their association with each other. One that will present a unified front to the public and assure the public of competent professional services. To accomplish this I think that the organization should consist of a number of local chapters where the members can meet frequently to become better acquainted with one another and to discuss and work out their common local problems. These local chapters should probably be grouped under several districts over the State, with each district electing two members to the State Board of Directors. This set-up is not an adopted program, but is simply a tentative idea for your thought and consideration.

The Highway and Surveying Conference for Florida this year is to be held at the University of Florida on October the 21st and 22nd. A very interesting program on surveying is scheduled. The surveying part of the program on the afternoon of the 22nd will be devoted to a business meeting. At this time we propose to decide whether or not we shall set up an independent Society of Land Surveyors for Florida, and if so to work out the major details of its organization. This association is one that is of vital importance to each and every one of us. You are urgently requested to attend this meeting, or have a representative there, so that the organization may be formulated on the concerted opinions and desires of the profession as a whole, and not based simply on the ideas of a few. This is your organization and I am sure that you are well aware of its importance. Its success or failure depends primarily on whether or not it is based on the desires of, and is supported by, the majority of the Land Surveyors of the State.

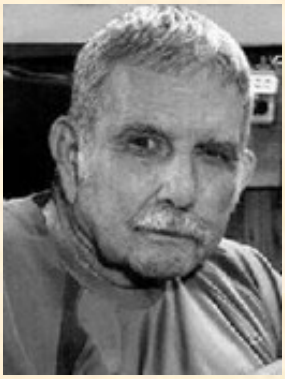
At present, a number of temporary local chapters of Land Surveyors over the State have organized, or are in the process of organizing. This is being done, or has been done, so that some of the ground work for a new organization may be completed prior to the Gainesville meeting. If there is no local chapter in your area, you are urged to form one, at least on a temporary basis, to discuss and clarify your desires in regards to the proposed association. Each chapter is expected to send one or more representatives to the October 22nd meeting. If we will all cooperate in this we can have an association of Land Surveyors in the State of Florida that will be of great value to the Profession as a whole and to each one of us as individuals.

H.O.Peters, R.L.S. #492

IN MEMORIAM

Cleveland Edward Powell

October 21, 1936 - June 3, 2018



Cleveland Edward Powell, 81, passed away on June 3, 2018. The "Bear" was born in Old Arlington to Mary and Ted Powell on October 21, 1936.

Cleve was predeceased by his parents and his wife, Jackie. He is survived by their four children, Scott Nelson (Wynnette) of St. Augustine, Robin Cannady (James W.) of Jacksonville, Lisa Bass of St. Augustine and Lisa Hurley of Jacksonville, as well as 13 grandchildren and 19 great-grandchildren, along with numerous nieces, nephews, and cousins. Cleve was a mentor to all at JW Cannady Surveying, Inc.

Cleve grew up on Tree Hill in Arlington and graduated from Landon High School. In 1965 he became a professional surveyor and mapper, License Number 1911. He retired from the Corps of Engineers in 1993 after 30 years. During this time he also graduated from the University of North Florida.

Cleve was a devoted member of the Fort Caroline United Methodist Church. He was a kind compassionate man who shared his time with you as if you were the only person in the room.

Download Form

TEAM APPLICATION

2018 FLORIDA SURVEYING AND MAPPING SOCIETY CHARITY SPORTING CLAY SHOOT

TALON RANGE

550 COMMERCE BLVD., MIDWAY

October 13, 2018

8:00 am - 12:00 (noon)

RAFFLE ITEMS

SHOTGUN START
4 PERSON TEAM = $400
INDIVIDUAL = $100
Breakfast & Lunch Included

REGISTER AND MAIL YOUR CHECK TODAY
Registration Deadline is October 10

PLEASE PRINT

Shooter 1/Team Captain:_____

Email:_____

Phone Number:_____

Shooter 2 _____

Shooter 3 _____

Shooter 4 _____

10 shooting station event. Sort of like golf. Each person on your team shoots 10 times and moves to the next station.

Station sponsorships are available for $150 per station or if you don't want to sponsor, but would like to donate to a charitable fund.

Please email Chad Thurner for information.

Chad Thurner
Office: 850-385-1179
Cell: 850-200-2441
chad@ncginc.com

Please make check payable to:
"FSMS NW Florida Chapter"
Mail to: FSMS NW Florida Chapter
c/o Chad Thurner
2844 Pablo Ave
Tallahassee, FL

Proceeds go to Community Initiatives such as Disaster Relief, Wounded Warriors Project, and/or the Community Foundation of North Florida Fund.

Florida Surveying and Mapping Society

2018 eLearning Courses

Basics of Real Property Course #8360 (3 General CEC)

$ 70.00

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

$ 120.00

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

$ 70.00

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

$ 70.00

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

$ 120.00

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

$ 120.00

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

$ 120.00

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

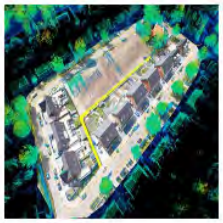
$ 120.00

History of Surveying Course #7140 (6 General CEC)

$ 120.00

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

$ 120.00



Introduction to Photogrammetry Course #7968 (3 General CEC)

$ 70.00

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

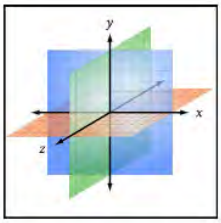
$ 120.00

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

$ 120.00

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

$ 120.00

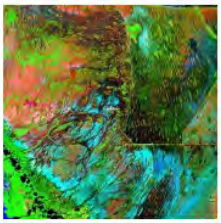


Practical Geometry for Surveyors Course #7141 (6 General CEC)

$ 120.00

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

$ 120.00



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

$ 120.00

Writing Boundary Descriptions Course #8362 (3 General CEC)

$ 70.00

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**

EMAILED			**Quantity**		
6 CEC	$115 Per Course	x	_____	=	$ _____
3 CEC	$58 Per Course	x	_____	=	$ _____
MAILED					
6 CEC	$125 Per Course	x	_____	=	$ _____
3 CEC	$68 Per Course	x	_____	=	$ _____
	TOTAL		_____		$ _____

☐ **Non-Member**

EMAILED	**Fee**		**Quantity**		**Amount**
6 CEC	$135 Per Course	x	_____	=	$ _____
3 CEC	$78 Per Course	x	_____	=	$ _____
MAILED					
6 CEC	$145 Per Course	x	_____	=	$ _____
3 CEC	$88 Per Course	x	_____	=	$ _____
	TOTAL		_____		$ _____

☐ **Non-Licensed in ANY State**

EMAILED	**Fee**		**Quantity**		**Amount**
6 CEC	$100 Per Course	x	_____	=	$ _____
3 CEC	$60 Per Course	x	_____	=	$ _____
MAILED					
6 CEC	$110 Per Course	x	_____	=	$ _____
3 CEC	$70 Per Course	x	_____	=	$ _____
	TOTAL		_____		$ _____

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 or FAX TO 850.877.4852

QUESTIONS? CALL 800.237.4384

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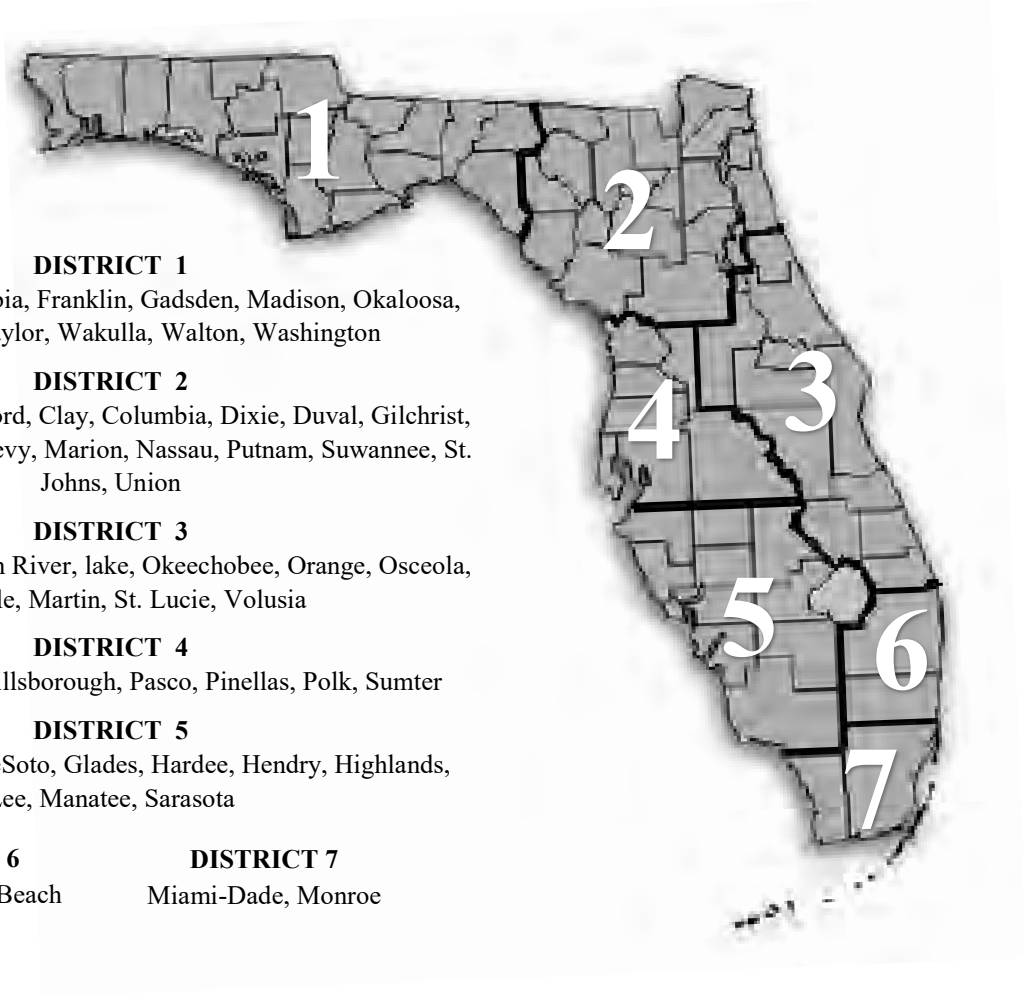

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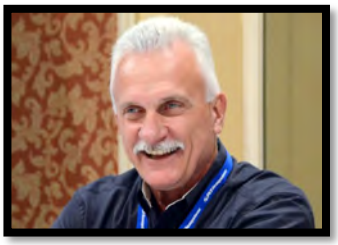

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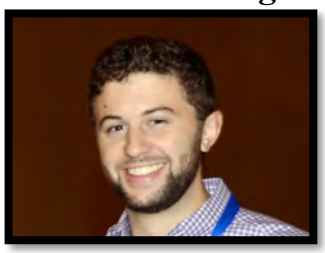

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Tom's Tip of the Month

212 Degrees: The Extra Degree

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		Agnoli, Barber & Brundage, Inc. 239-597-3111
	Aim Engineering & Surveying, Inc. 239-332-4569		Allen & Company, Inc. 407-654-5355
	Allen Engineering, Inc. 321-783-7443		Allterra 954-850-0795
	AM Engineering, Inc 941-377-9178		American Consulting Professionals, LLC 813-435-2600
	American National 239-963-2245		American Surveying, Inc. 813-234-0103
	Arc Surveying & Mapping, Inc. 904-384-8377		Associated Land Surveying & Mapping 407-869-5002

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ATS Land Surveying, LLC 386-264-8490	Avirom & Associates, Inc. 561-392-2594
Banks Engineering 239-939-5490	Barraco & Associates, Inc. 239-461-3170
Bartram Trail Surveying, Inc. 904-284-2224	Bean, Whitaker, Lutz & Kareh, Inc. 239-481-1331
Bello & Bello Land Surveying, Inc. 305-251-9606	Benchmark Land Services, Inc. 239-591-0778
Benchmark Surveying & Land Planning, Inc. 850-994-4882	Beta Company Surveying, Inc. 941-751-6016
Betsy Lindsay, Inc. 772-286-5753	Biscayne Engineering Company, Inc. 305-324-7671

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Boatwright & Durden Land Surveyors, Inc. 904-241-8550	Bock & Clark Corporation 330-665-4821
Bowman Consulting Group, Ltd. 703-464-1000	Brown & Phillips, Inc. 561-615-3988
BSE Consultants, Inc. 321-725-3674	Buchheit Associates, Inc. 407-464-2118
Burkholder Land Surveying, Inc. 941-209-9712	Bussen-Mayer Engineeering Group, Inc. 321-453-0010
C & M Road Builders, Inc. 941-758-1933	Calvin, Giordano & Associates, Inc. 954-921-7781
Cardno, Inc. 727-531-3505	Carter Associates, Inc. 772-562-4191

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Caulfield & Wheeler, Inc. 561-392-1991	Causseaux, Hewitt & Walpole, Inc. 352-331-1976
Central Florida Surveys, Inc. 407-262-0957	Chastin-Skillman, Inc. 863-646-1402
CivilSurv Design Group, Inc. 863-646-4771	Clary & Associates, Inc. 904-260-2703
Clements Surveying, Inc. 941-729-6690	Collins Survey Consulting, LLC 863-937-9052
Compass Engineering & Surveying, Inc. 727-822-4151	Compass Point Surveyors 954-332-8181
Control Point Associates 908-688-0099	County Wide Surveying, Inc. 850-769-0345

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Cousins Surveyors & Associates, Inc. 954-689-7766	CPH, Inc. 407-739-6400
Craven-Thompson & Associates, Inc. 954-739-6400	Cross Surveying, LLC 941-748-8340
Culpepper & Terpening, Inc 727-464-3537	Cumbey & Fair, Inc. 727-797-8982
Dagostino & Wood, Inc. 239-352	Dennis J. Leavy & Associate, Inc. 561-753-0650
DMK Associates, Inc. 941-475-6596	Donald W. McIntosh Associates, Inc. 407-644-4068
Donoghue Construction Layout, LLC 321-248-7979	Douglass, Leavy & Associates, Inc. 954-344-7994

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DRMP, Inc.	407-896-0594	DSW Surveying & Mapping, LLC	352-735-3796
Echezabal & Associates, Inc.	813-933-2505	ECHO UES, Inc.	888-778-3246
EDA Engineers -Surveyors - Planners, Inc.	352-373-3541	Eiland & Associates, Inc.	904-272-1000
Element Engineering Group, LLC	813-386-2101	Engenuity Group, Inc.	561-655-1151
Engineering Design & Construction, Inc.	772-462-2455	England , Thims & Miller, Inc.	904-642-8990
ER Brownell & Associates, Inc.	305-860-3866	Exacta Land Surveyors, Inc.	305-668-6169

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F. R. Aleman & Associates, Inc.	305-591-8777	First Choice Surveying, Inc.	407-951-3425
Florida Engineering & Surveying, LLC	941-485-3100	FLT Geosystems	954-763-5300
Fortin Leavy Skiles, Inc.	305-653-4493	FRS & Associates, Inc.	561-478-7178
Geodata Consultants, Inc.	407-732-6965	Geoline Surveying, Inc.	386-418-0500
Geomatics Corp.	904-824-3086	Geomni, Inc.	904-758-2601
GeoPoint Surveying, Inc.	813-248-8888	George F. Young, Inc.	727-822-4317

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	Hayhurst Land Surveying, Inc. 772-569-6680	HM HOLE MONTES ENGINEERS · PLANNERS · SURVEYORS	Hole Montes, Inc. 239-254-2000

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Honeycutt & Associates, Inc.	321-267-6233	Hutchinson, Moore & Rauch, LLC	251-626-2626
Hyatt Survey Services, Inc.	941-748-4693	I.F. Rooks & Associates, Inc.	813-752-2113
Inframap Corporation, Inc.	804-550-2937	John Ibarra & Associates, Inc.	305-262-0400
John Mella & Associates, Inc.	813-232-9441	Johnson, Mirmiran & Thompson	813-314-0314
Johnston's Surveying, Inc	407-847-2179	Jones, Wood & Gentry, Inc	407-898-7780
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