

GPS 'N Gators

By Judy Frank

This article was first published in 1999 in the California Surveyor. It is reprinted with permission from the editor of the magazine and the author.

Not being a licensed surveyor myself, I can understand the concept of the average citizen who might think of a land surveyor as “that guy in the orange vest who stands out in the middle of an intersection with a tripod and performs a fairly mundane job in a fairly conventional occupation.” That is to say, it could have been my impression too, before my field trip. The mission involved re-mapping two counties in Southeastern South Carolina for a U.S.G.S. job. Promised a part vacation/part working trip, I saw my first compromise when my allowable airline luggage was revised to include a steel case with a GPS unit thus reducing my wardrobe to one suitcase! Little did I know that dirty jeans are “in” and it wouldn’t matter anyway. But I was a rookie and I was yet to learn a lot on this trip. We arrived in Charleston, South Carolina, around midnight and had a very short night before waking to get on the road and travel to our first point (over 100 miles away).

At first light we headed for Dorchester County airport where we needed to find a monument and witness post about 40 feet west of a runway. Protocol called for us to gain access permission and we did and across the runway we drove. After learning to “kick the dirt around” I was proud to be the one to actually find our first point and remains of a witness post! We set up our first GPS session. The next couple of points were over a wide area including across the border into Georgia. We used a GPS computer program to navigate to our points which was useful until we came to unforeseen locked iron gates and then had to reconnoiter around them and go extra miles to get around creeks and rivers. Rivers and swamps were everywhere. Burned fields were everywhere. I learned about the benefit of having a 4WD vehicle as we drove down dirt roads for six to seven miles off the main dirt road and set up our equipment. Once in a great while there would be a trailer home on a lot with several discarded cars, and quite often an old yellow school bus among the cars. One trailer home must have had a lot of status because

they had two school buses. Surveyors must be accustomed to happening upon historical data, but it was a nice surprise to me when we observed a historical marker in Robertsville. A sign at the Black Swamp Baptist Church depicted this as the home town of the man who wrote Roberts Rules of Order.

It wasn’t long before I found out a surveyor’s daily diet consisted of donuts or cookies or whatever else the local country store was selling. The stores seemed to be spread out and we only came upon a country store every couple of hours down the red dirt roads we traveled. The fast food chains had not made in-roads to this part of our nation yet. I got a sense of the area and its people when we stopped in country stores where smoked hams hung in the back and everything from instant grits to shotguns and men’s underwear were sold to the locals. You could even sit in a rocker at the front of the store and “jaw” a little. No jawing for us, we were on a tight schedule and daylight was burning.



At the end of the first day we called into the office and told them we got 5 points and they were dismayed. Forget the fact we covered over 500 miles! Gees I thought, a little time in the field would help those office guys get some understanding of what we field guys have to deal with! So much of the area we worked in was remote that it was necessary to travel back to a main artery for creature’s comforts. That was my introduction to the “per diem” golden rule. Spend

less than you get! Eat little, sleep cheap, make a little money. Up to the Interstate at dark to look for a motel and download our day’s accomplishments to see if they make sense. We e-mail our efforts off to the office and wait for results.

Up at dawn the next day, and off to the Santee Swamp and other points. We set a couple of points and then went down one of those smaller red clay roads where the locked gate happened to be hanging open. The road was no wider than our vehicle and brush was high on all sides. I drove in all wheel drive when a stream of water was rushing across our path. How to cross it? I was told to “Back up and give it hell”. I did and we did. We followed a narrow winding trail dwarfed by reeds and swamp grass for about four miles, snaking our way through South Carolina’s version of wilderness until we detected the impossible, improbable hum of engines. Around the next turn we came upon a pickup and in front of that, a bulldozer at work. The end of the “road”, literally. I asked where we had to go to set the point and

Roger replied “About a quarter mile past that truck”. Rule number one: this is an opportunity for the licensed professional to get out and assess our chances of getting to the point (I was only the helper after all). Surely I thought

they would put him and the equipment on the bulldozer and take him to the point. He got back into our car and said “Pull ahead they’re going to let us through.” We traveled past the rumbling equipment and some skeptical glances and on to our point. It was late in the afternoon, we were literally at the end of the road and the sky looked ominous as we set up the GPS unit. The local farmer came by in his pickup, got out and asked “How did y’all get on my private road, I always have the

gates locked". Roger explained the gate was open and took out the aerial quad photos from U.S.G.S. Roger tried to explain the U.S.G.S. was re-mapping the county and we would only be there about 20 minutes and wouldn't be back again. Just when we thought the guy was impressed he said "Like this is supposed to be the most important moment in my life - that the government wants to map my road and I'm supposed to remember this for the rest of my life? Where are y'all from anyway?" "California" we replied, and his facial expression read "Hollywood". "Well y'all tell your friends you were in the Santee Swamp and there's some weather moving in and you were lucky to get in and y'all be luckier to get out, so y'all be careful now heah?" That got my attention! Off he went in his pickup. I watched the clouds move in and thought about his urgency to see us leave, his concern about His Private Road and wished that GPS could somehow be speeded up. About 25 minutes went by when the old pickup showed up again and he said "That bad weather is moving in now, I'll make tracks and y'all follow them to get out of here, or y'all be stuck bad in here for the night". Not wanting to spend the night there or return, we made sure we had enough satellite time for the point and briskly packed up. We followed the old boy's tracks and got out! Great big rain drops began to splash off our windshield.

We weren't finished with the Santee Swamp region though, and we approached the Santee Swamp National Refuge at dusk. I drove as directed down dirt roads lined with trees hanging heavy with Spanish Moss and saw a little deer in the road, he flipped his white tail and disappeared into the brush. As I continued down the narrow dirt road I became aware of a large dark object off to the left in my peripheral vision. I hit the brakes when my brain kicked in the "alligator" recognition button. The biggest alligator I had ever seen, laying there, approximately 12 feet long and a head as wide as the 5 Freeway. Another 'gator was half submerged near him. Once over the initial shock, I took a picture and then spotted 3 alligators just lying in a heap, a little further on there was a baby alligator. It was like a photo mosaic, the closer you looked the more you saw. We came to the place where we had to set the point. Now mind you, there weren't even signs around that said "Keep Your

Hands and Legs Inside the Vehicle" - even Disney does that! I made up rule number 2: it should be the licensed surveyor who gets out of the vehicle in this animal kingdom to set up the equipment. There was swamp water on all sides of us and I know from watching the Discovery Channel that those critters can travel quickly when they decide to. I sat in the vehicle as the sky clouded over with gray once again. It would soon be nightfall and the GPS unit chirped away as we talked to space from high atop the Hixon pole. The GPS session came to an end and we set out to seek our own refuge for the night...or so I thought. Surveyors always make the most of whatever daylight is left! We then stopped off at one more site along the Santee River to see what it would take to get in to where we needed to go at first light and discovered a pair of gates and a sign for "The Berkeley Hunting Club" No Trespassing!. There were a few bullet holes in the sign to emphasize their sincerity. Roger pondered that and wrote down the name of the club and headed for the Interstate.

Once more we downloaded the data, e-mailed our files and hoped for the best. So far everything had been working out. Now for another dimension to being a surveyor, being a private detective and using public relations skills. He tried the local phone book for a listing for a Berkeley Hunting Club but to no avail. Roger then called information and tried for any hunting club within the area and got two listings. After calling and introducing himself, he got a lead to call yet another hunting club guy who might know more and Roger tried him. He wasn't sure but gave Roger yet another phone number to try and at last, success! We had the Berkeley Hunting Club president and he gave permission to get on the land tomorrow but was somewhat perplexed as to how we got his number.

Early next morning (and hopefully our last working day) we set out for the Hunting Club, winding our way under the bridge and through the construction area

to the entrance. Roger swung open the heavy iron gates. As we drove through the outback along the Santee River it seemed paradoxical to me to have street signs with names "Main St.", "Sundowner Lane", and "Bulldozer Lane" on these back roads which had no traffic, let alone a busy intersection. I asked for an explanation for one of the signs which was the "Gut Pit". Ugh. Don't ask. As we continued on, about 4 or 5 wild turkeys were ahead of us, but took off in flight as our motor sound got louder. After 5.5 miles of navigation past deer blinds and duck blinds and more swamps, the GPS driving program let us know that we had found our destination for the final setup. It was a beautiful morning and the sun was shining and it was very peaceful. Certainly there were eyes out among the woods and swamps watching us in a curious fashion, one could almost feel it. When we reached an area where the cell phone had signal we called the office and got the bad news. One of the points just wouldn't

solve and we had to revisit it. Which one



was it? The good news was that it wasn't

in the Santee Swamp, the bad news was that it was about 100 miles back from our current position. So off we went and our job ended after 3 long days and 1200 miles on the trip odometer.

We drove up to Myrtle Beach (oh, and just had to stop and get a HARN, after all it was practically on our route) with what little energy we had left to take our little vacation. We found Myrtle Beach was a stark contrast to the rest of the terrain and level of activity we had seen in this state for the past few days. Golf courses galore, hotels, waterparks, restaurants, a virtual tourist Mecca.

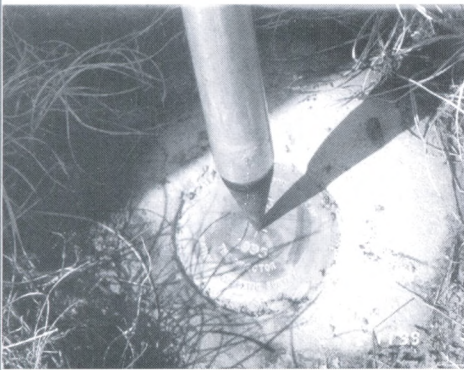
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Like the contrast in South Carolina, I also saw a totally different aspect of surveying than the general public sees. The "orange-vested freeway surveyor" vs. the off road adventurer. I learned that a dirt road could be considered a "fairly good road" compared to having no road at all on some jobs. I will certainly have better visualization when I read those field descriptions from now on. Surveying can be a multi-faceted profession requiring detective work, ingenuity, public relations, physical endurance (we may have hiked back to some areas had there not been poison ivy all over), interest in historical artifacts and a command of complex technology.

Imagine, setting up a little disk on a tripod that talks to several satellites in outer space, regurgitating data that will travel via the internet to another computer 3,000 miles away...resulting in a mathematical equation to put a pin prick on an aerial photo of some guy's property who could care less and whose only world revolves around his road and his bulldozer. Mundane? Conventional? Those would not be the adjectives I would choose based on my short venture as a field person. Who'd of think it? GPS and alligators.

Editor's note: In her article, Ms. Frank mentions the term HARN. Roger Frank, PLS, President and CEO of Johnson-Frank & Associates and Judy's husband, explained that HARN stands for High Accuracy Reference Network. This network contains high accuracy GPS controlled monuments which are placed over the entire US by the National Geodetic Survey (NGS) or by individual states sanctioned by the NGS.



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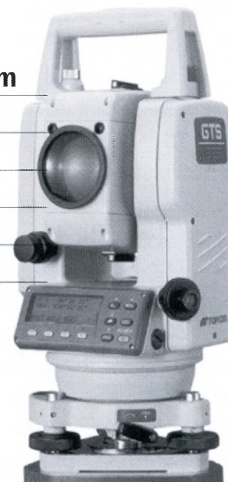
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