

# MISSOURI SURVEYOR

A Quarterly Publication of the  
Missouri Society of Professional Surveyors

Jefferson City, Missouri

December 2017



## CALENDAR OF EVENTS

2018

### February 7, 2018

Board Meeting and Capitol Visitation  
MSPS Office,  
Jefferson City, MO

### May 3-5, 2018

Board Meeting, Golf Tournament and  
40th Annual Spring Workshop  
Lodge of Four Seasons,  
Lake Ozark, MO

### July 14, 2018

Board Meeting  
MSPS Office,  
Jefferson City, MO

### August 22-24, 2018

Review Course, Best Western  
Capital Inn,  
Jefferson City, MO

### October 3-6, 2018

61st Annual Meeting and Convention  
Tan-Tar-A Resort,  
Osage Beach, MO

### December 1, 2018

Board Meeting  
MSPS Office,  
Jefferson City, MO

**Cover:** At the MSPS 60th Annual Meeting in October our Society's past Presidents were honored guest. Here, those present gathered for a photograph. See page 41 for name recognition.

Donald R. Martin, Editor



## Notes from the Editor's Desk

Donald R. Martin



Welcome readers to the December 2017 edition of *Missouri Surveyor*. The busy season of holidays is also a busy season for the Newsletter with gathering reports from our Annual Meeting, award announcements and recognizing new office holders on the MSPS Board. Our ol' pard Tripod the three legged groundhog is a bit triggered this season. He has watched too much news and fears he may be befallen with all manner of assaults including a missile launch by Kim Jong-Un, a terror attack by ISIS, a mass shooting by a lone wolf, a cavalry charge by Confederate statues, a private meeting with a Hollywood producer and the upcoming flu season! It is enough to make our hapless little hero hurry away to his underground hovel of a habitat to hunker down, don a helmet and hide from the horrors of hate and harm which haunt our homeland this holiday season. Before he has a hissy, I'll move on to this edition's contents.

We start with the first *President's Message* from Gerald Bader – bad news Prez, there are three more to go. Our chairman's words are followed by the proud announcement of NSPS bestowing the *Excellence in Journalism Award* to *Missouri Surveyor*! It is particularly befitting that the chosen edition (March, 2016) honored our late Editor John Holleck. It is the standard he set which has guided us to the status of award winning publication. Next is news worthy of celebration. The Southwest Chapter comes to the rescue in *MSPS Chapter Steps Up To Support State Technical College's Surveying Program* by Joe Paiva. Cheers for the surveyors of the SW! After that we have *Notes from the National Geodetic Survey*. More education news follows with *State Technical College of Missouri Surveying Programs* then a similar piece from back east in *Surveying Education - A University of Maine Perspective* by Knud Hermansen. Reprinted from the Texas Tribune we have *Red River Land Lawsuit Ends in Settlement*. This is a follow up to ongoing stories *Missouri Surveyor* first published in June 2017 regarding federal threats to private land ownership as understood through accepted boundary survey practices.

As we move into the middle of the edition we have presentations of our MSPS awards winners – *Darrell Pratte* for the Myers Service Award and *Joe Clayton* for Surveyor of the Year. Congratulations to them both; well deserved! Honoring those two is followed by *Annual Meeting 2017* photographs and a *Thank You Exhibitors* montage. Our equipment, instrument and technology vendors came through once again to join MSPS in sponsorship and participation in our events. Missouri surveyors are truly blessed with such strong partners handling our supply and training needs. Their support of this Newsletter is also appreciated – thank you all! Please honor their support with your patronage.

*Missouri Surveyor Profile* with Q & A's from new *President Gerald Bader* and our Board of Director additions of *Jerrod Hogan* and *Matt Thomas* is next. Then a remembrance of a meeting from long ago is recounted in *A Glimpse Into the Past* by Joe Clayton. Whether you recall the past as the "Good Ol' Days" or the "Dark Ages" Clayton offers an interesting journey in the Wayback. From the past we move ahead to the emerging present and future in *Can Surveyors Do More with Less by Using Drones?* from Jeremiah Karpowicz of Commercial UAV News. He shares an informative interview which he had with Daniel Katz, Co-founder at Aerotas. After this is import news from the *Board of Registration* regarding changes to the Code of State Regulations and requirements associated to *Title Block* on plans and plats. A page of photographs from this year's *Land Surveyors' Review Course* follows. Finally, to wrap up the December edition I offer a favorite Christmas story, *Holiday Helping Hands*. I hope you enjoy.

As I close this message, it is a few days before Thanksgiving. Among the "thanks" I will be giving is the cherished opportunity to work on this Newsletter. It is my pleasure and my honor. I hope it is worthy of your reading time and thought. Enjoy this edition and remember *Missouri Surveyor* is your voice; I welcome that which you may have to say or write. 🇺🇸

Donald

# THE MISSOURI SURVEYOR

Published quarterly by the  
Missouri Society of  
Professional Surveyors

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## EDITOR

Donald R. Martin  
105 S. Capistrano  
Jefferson city, MO 65109  
Phone (573) 619-8702  
E-mail: editor@missourisurveyor.org

## PUBLISHER

Sandra Boeckman  
P.O. Box 1342  
Jefferson City, MO 65102  
(573) 635-9446 FAX (573) 635-7823  
E-mail: msps@missourisurveyor.org

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## President's Message

Gerald Bader, PLS



Good day everyone! I hope all had a Happy Thanksgiving.

It is truly an honor to serve as your President. It's hard to imagine where the time went. It seems like just a couple years I was elected to the board, when in reality it was seven years ago!

The 60<sup>th</sup> Annual Meeting was a great success! It was great to be joined by so many of our past Presidents. To Joe, Jim, Adam, Robert, Sharon, and all past Presidents--you all deserve gratitude from the members for your service to this Society and the profession. And a special THANKS to our past Presidents who have passed on; gone but not forgotten. I hope to serve with the dedication, commitment and leadership as did all our past Presidents. Congrats to Joe Clayton, recipient of the "Surveyor of the Year Award" and Darrell Pratte recipient of the "Robert E. Myers Service Award". These were well deserved honors. Congrats to Earl Graham the new Secretary/Treasurer and welcome Jerrod Hogan and Matthew Thomas to the MSPS board. Thanks to all the Chairs and co-chairs along with the many members of each committee. Your service to MSPS is invaluable. Also, congrats to the new LSIT's and PLS's. Take a minute and reflect; your insight would be very valuable to a committee. Just start with one and continue to get involved. Welcome, Casey Young to the Young Surveyors/Mentoring Committee. If you would like to be involved, sign up for her committee.

Along with the aforementioned recognitions and congratulations I particularly wish to express thanks to:

- The Chairs, co-chairs and the many members of each committee. Your service to MSPS is invaluable.
- Rocky Miller, Robert Ross and Bart Korman, for their support to MSPS in the Missouri legislature
- Thanks to all the exhibitors; you support our events and keeping us up-to-date with the latest and greatest in technology.
- Ronnie Heimbaugh (the new State Land Surveyor) for introducing the new "Missouri Standards".
- The Standards Committee for their great work and "patience".

I think the biggest issue I see in the Missouri surveying profession is the lack of young surveyors. Reflecting on the past 60 years, where will the surveying profession be in 20 years much less another 60? The answer is not simple. Is it the lack of interest, promotion, glamor, and wealth? Or maybe it has something to do with all the ticks, mosquitoes, etc.?

In terms of legislation I look forward to seeing an "ownership of descriptions" bill, an education bill and a mandatory plat recording bill. The legislative committee will be working hard again this year. Keep in contact with your representatives. We always need your help in contacting them for the support of these bills. In April, Governor Greitens signed Executive Order 17-11 creating a task force "to study all existing boards and commissions, determine whether each board and commission is necessary, effective, and efficient, and make recommendations that will improve and streamline the existing system. I'm not sure where this will lead us or leave us, but stay aware and engaged.

Make plans now to attend the Spring Workshop, at the Lodge of Four Seasons on May 4<sup>th</sup> and 5<sup>th</sup>, 2018.

In closing, think about the story from Lt. Col. Danny White, U.S. Marine Corps (retired). Whether you are of any faith or not, this gentleman has an inspirational story. Remember, *at the end of the day take a good look at the marble.*

Merry Christmas, Happy Holidays and have a Happy New Year! 🇺🇸

*Jerry!*

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**MISSOURI SURVEYOR**

**THE MSPS NEWSLETTER**  
**MARCH 2016 EDITION**

SANDY BOECKMAN, PUBLISHER

DONALD MARTIN, EDITOR



# MSPS Chapter Steps Up To Support State Technical College's Surveying Program

by Joe Paiva

During the 2017 Annual Meeting in Springfield, the successes of the surveying program at State Tech (located in Linn, Mo.) and some of its immediate needs were presented to the membership. The members of the Education Committee of the Southwest Chapter of MSPS reached out to the program when they heard about College faculty reaching out to employers of the students for donations of supply items such as stakes and lath.

The Southwest Chapter has now set up an account with Ozark Laser, headquartered in Springfield, Mo. against which the College can draw for needed supplies.

Cynthia Cox, Director of Technical Continuing Education Programs and Surveying Course Coordinator said, "State Tech, as a school that is dedicated to preparing students for employment, works hard to develop relationships with potential employers and industry associations, as they are the best representatives of the market the graduates will be interviewing with." She added, "We are so pleased that the Southwest Chapter of MSPS has made this commitment to support our program. MSPS, as a whole, has been extremely cooperative with us to publicize our educational offerings through a variety of means. It is gratifying to see the chapters stepping up as well. It will mean so much to us, both faculty in the Civil Engineering Technology program and the program's students."



## Southwest Chapter

Steve Lewis of the Education Committee of the Southwest Chapter of MSPS explained, "The Southwest Chapter of MSPS has been fortunate to have had several students attend the online courses at State Tech, including the hybrid courses which include labs in Linn. Our Chapter has provided scholarships to these students that could be used for tuition or travel expenses. When Joe Paiva reported on the needs of this program at State Tech for maintenance and supply items at the Annual Meeting, it didn't take long for our Chapter's Education Committee to make an offer of support while we were there. This support was unanimously approved at our next Chapter meeting. As professional surveyors, we believe it is our responsibility to support educational opportunities for all who wish to be involved in surveying and to mentor them. So it was a natural for us to take this step and we are proud to be the first chapter to do this." 🇺🇸

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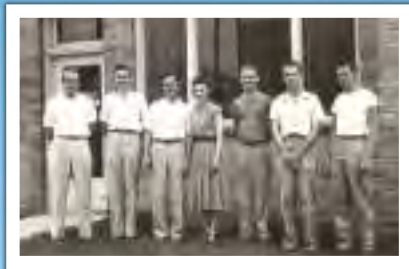
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Bader Land Surveying Inc.  
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Email: baderls@brick.net

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Missouri Dept. Of Conservation  
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Email: bradley.mccloud@mdc.mo.gov

### RON HEIMBAUGH

(Term expires 2019)  
Department of Ag-Land Survey  
Program  
1251 A Gail Drive, PO Box 937  
Rolla, MO 65402  
573-368-2323 • Fax: 573-368-2379  
Email: ron.heimbaugh@mda.mo.gov

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Email: rayr@riggslandsurveying.com

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Joplin, MO 64801  
417-782-7399  
Fax: 417-782-7398  
Email: jhogan@andersonengineeringinc.com

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(Term expires 2020)  
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# News from the National Geodetic Survey

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*November 9, 2017*

## **NGS and NASA Discuss Organizational Mission Requirements**

NGS and NASA Goddard Space Flight Center personnel met in Silver Spring, MD, to discuss respective organizational mission requirements. For NGS, the meeting focused on implementation and maintenance of the new reference frames planned for release in 2022. For NASA, the meeting focused on support for future International Terrestrial Reference Frames (ITRF). The future NGS-realized reference frames will be tied directly to the ITRF, so the discussion was a step toward coordinating a unified U.S. plan.



*November 2, 2017*

## **Helping the Maryland Geological Survey Monitor Subsidence**



As the next step in a project launched in October 2016, NGS helped the Maryland Geological Survey (MGS) monitor subsidence at groundwater pumping stations on the western shore of the Maryland coastal plain. NGS deployed seven static GPS receivers on deep-rod bench marks established at pumping facilities in Crofton, Annapolis, Arnold, Calvert Cliffs, Lexington Park, Waldorf, and Rosaryville. Last year's observations will be compared with this year's to determine if there were any measurable changes. Analyses will be ongoing, and MGS will document any subsidence related to the removal of groundwater. NGS and Maryland plan to continue the project into the future.

*October 26, 2017*

## **GRAV-D Project Featured at Group on Earth Observations Meeting**

NGS's Gravity for the Redefinition of the American Vertical Datum (GRAV-D) project was featured at the Group on Earth Observations (GEO) XVI Plenary held this week at the Ronald Reagan International Trade Center in Washington, D.C. NGS' featured presentation also included information on tools and applications pertaining to its Online Positioning User Service (OPUS). The plenary is the annual meeting where GEO business is conducted. The exhibit hall was open to the public and the U.S. exhibit featured 23 earth observations from across the federal government.

*October 19, 2017*

## **Post-Hurricane Nate Aerial Imagery**

Hurricane Nate imagery is now available on the NGS storm imagery website. NGS used the Office of Marine and Aviation Operations Beechcraft King Air 350 CER aircraft to collect more than 1,764 aerial oblique images covering more than 736 square kilometers. The covered area spans from New Orleans to Memphis, focusing on port areas for navigation safety. Additionally, NGS also reprocessed imagery collected by a private contractor to FEMA and incorporated that data into the NGS site.

*(continued on next page)*

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## News from the National Geodetic Survey *(continued)*

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*October 05, 2017*

### **NGS Releases ‘Gravity for Geodesy II’ Lesson in Collaboration with COMET®**

NGS just released a new online lesson in partnership with The COMET® Program, a worldwide leader in education and training materials for the environmental sciences. Titled “Gravity for Geodesy II: Applications,” this second lesson in a two-part series discusses gravity’s relevance to geodesy, as well as the implications gravity has on height measurements and other applications. It is now available on the NGS website and the COMET MetEd site, which is a free collection of hundreds of training resources for the geoscience community.



*September 28, 2017*

### **Sharing Modernization Plans for the National Spatial Reference System**

NGS representatives visited the National Geospatial Technical Operations Center of the U.S. Geological Survey (USGS) in Rolla, MO. They outlined the details of modernization plans for the National Spatial Reference System (NSRS) and learned how current datums are used in map production at USGS. The meeting will assist USGS in developing a plan to smoothly transition its operations to the new NSRS in 2022.

*September 28, 2017*

### **More than 65,000 Images Collected of Areas Impacted by Recent Hurricanes**

From September 22-25, the National Geodetic Survey (NGS) used NOAA’s Office of Marine and Aviation Operations Beechcraft King Air 350 CER aircraft to collect more than 12,000 aerial oblique images covering more than 1,500 square kilometers affected by Hurricane Maria. In addition to the U.S. Virgin Islands, covered areas of Puerto Rico include Culebra Island, Vieques Island, the east central portion of the main island, and its south and north coasts. To date, NGS emergency response efforts to Hurricanes Harvey, Irma, and Maria have resulted in more than 1.7 billion requests for NGS images. In total, more than 65,000 images were collected, covering more than 24,000 square kilometers and utilizing 195 flight hours. Images can be viewed on NGS’s storm imagery website.

*September 21, 2017*

### **Replacing Continuously Operating Reference Stations in the Great Lakes**

NGS is conducting a project to replace several Continuously Operating Reference Stations (CORS) along the Great Lakes. The stations were originally installed in the early to mid-2000s at CO-OPS water level gauge stations to support monitoring the International Great Lakes Datum. To meet future requirements, modern Global Navigation Satellite System receivers equipped with improved communication devices are being deployed using end-of-FY17 NOS stimulus funds. The stations being updated are located northwest of Lake Superior (Grand Marais, MN), south of Lake Michigan (Calumet Harbor, IL), south and east of Lake Erie (Marblehead and Cleveland, OH, and Buffalo, NY), and south of Lake Ontario (Oswego, NY). The project will replace equipment in the field and restore the data stream to the CORS archive.

September 14, 2017

## NGS Collects Aerial Oblique Imagery Following Hurricanes Irma and Harvey



*NGS collected damage assessment imagery in the aftermath of Hurricane Harvey and Hurricane Irma. The aerial imagery was collected in specific areas identified by FEMA and the National Weather Service. You can access all of the collected images online.*

As of September 13, the National Geodetic Survey (NGS) had collected more than 10,000 aerial oblique images covering more than 2,695 square kilometers along the Florida coast. Using NOAA's Office of Marine and Aviation Operations Beechcraft King Air 350 CER aircraft, NGS covered the areas of Punta Gorda to Naples, Key West to Boca Chica Key, Boca Chica to Deer Key, Marathon to Key Largo, and Everglades City to Fort Myers. Flights will continue daily as weather allows. Images are processed and posted online within hours. The imagery can be used for a variety of purposes, including recovery strategies, search-and-rescue efforts, hazard identification, vessel locations, and damage assessment. Irma images can be viewed online. NGS also collected more than 25,500 aerial images following Harvey. The office conducts surveys as requested by the Federal Emergency Management Agency (FEMA) or a state, territory, or tribe in coordination with FEMA.

June 22, 2017

### NGS Recognized at Boulder, CO, Public Art Dedication

NGS was recognized at the dedication of Boulder, Colorado's, newest public art installation, titled "Triangulation." The new art piece is oriented along the original line of the 40th Parallel and was designed to enhance an existing artwork completed in 2008. The 2008 artwork focused on the 40th parallel, with a rock split on each side of the parallel and a geodetic mark set within a bench on the parallel. NGS's geodetic advisor provided guidance in surveying the geodetic mark in 2008, and this year, the advisor and several surveyors were on hand to answer questions. "Triangulation" highlights Baseline Road—the control line for the 40th Parallel originally surveyed by the U.S. Government in 1859. The survey crew navigated over 345 miles in 55 days to the base of the Rocky Mountains, which was then the eastern side of Utah Territory. 🇺🇸



# State Technical College of Missouri Surveying Programs

by Joe Paiva

I was pleased to be invited during late summer of 2015 to teach courses in surveying at the State Technical College of Missouri (formerly Linn Tech). We launched a hybrid course (Surveying II), which means online lectures but on-campus or remote labs with a pre-approved mentor in October of 2015. This initiative to aid the professional development of new surveyors was facilitated by Diane

Heckemeyer, who was chair of the Civil Engineering Technology (CVT) Department at the College at the time.

I agreed to set up and conduct four courses: Surveying I, Surveying II, Land Records and Legal Aspects of Surveying for the College, so that it could provide the minimum required surveying course content for licensure as a land surveyor in Missouri.

I am pleased to report that we've had a consistent starting minimum enrollment of 15 students in each of the courses. Including this semester (Fall 2017), eight semesters of courses have been offered in surveying to a minimum of 120 student enrollments.

CVT 242 and 242, Land Records and Legal Aspects respectively are fully online courses. CVT 240 and 241, Surveying I and II are hybrid courses. The students are required to be on campus for four lab Saturdays from 9am to 3pm or pre-arrange with a licensed surveyor or engineer to conduct the labs remotely, with mentoring and supervision by the licensed professional. To do this faculty must receive the request and pre-approve it before the student begins the course. Remote students' lab reports are graded with the same standards and expectations as with the students on campus.

This means, for the first time, that students from anywhere in the state can enroll in these courses, as long as they can find a cooperating professional nearby. We have many



students who come in with Surveying I already completed at some other institution, and sometimes even Surveying II.

I want to thank MSPS, particularly Sandy Boeckman, who has pulled out all the stops with by extending the society's support for publicity about the program, giving us space in the Newsletter and giving us booth space. Because of the enrollment success, the CVT department has been asked by College administration to design a certificate in surveying program and an Associate's degree in Surveying. These latter two are not guaranteed, but we will report in this space as to the success of expanding the opportunities for surveying knowledge. I also want to thank Dr. Dick Elgin, who guest-teaches the Chapter 60 elements of the Boundary Surveying course. He has worked long and hard to ensure a quality understanding of this vital material for Missouri land survey practitioners.

Anyone (potential employers, potential students, and non-traditional students already engaged in a career in surveying, but not licensed) can now, with the appropriate hard work, accomplish the minimum education requirements for licensure in Missouri. If you need more information about the program, contact Cynthia Cox, Director of Continuing Technical Education programs and the Surveying Course coordinator at [Cynthia.cox@statetechmo.edu](mailto:Cynthia.cox@statetechmo.edu). 🇲🇴



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# Surveying Education – A University of Maine Perspective

by JKnud E. Hermansen, P.L.S., P.E., Ph.D., Esq.

I believe it is important to keep practicing surveyors aware of the evolving state of surveying education. I cannot speak for all surveying programs. I can speak for the surveying program at the University of Maine. Let me say that there are many excellent surveying programs and surveying faculty members across the United States. Contacting the program in your state will probably reveal similar initiatives.



Surveying education at the University of Maine takes place in the Surveying Engineering Technology program. The Surveying Engineering Technology program is an ETAC/ABET accredited program. ABET establishes standards for engineering and surveying programs Nationwide.

Faculty within the Surveying Engineering Technology program must have at least a master's degree in surveying or related field, have at least three years of practical experience, and must be licensed as a surveyor. Currently, all faculty within the program have a Ph.D. and are licensed as surveyors in at least two states. Two of the faculty are also licensed as professional engineers. One is also licensed as an attorney at law.

Graduates of the program meet the minimum education qualifications for licensure in every state. They also meet the minimum educational qualifications for licensure as a professional engineer in Maine.

Students at the University of Maine can opt to obtain a dual degree in surveying and forestry without taking any extra credits. Of course, students choosing this option have no elective courses to choose from.

Students that pursue only the surveying engineering technology degree have a heavier concentration on engineering aspects, geodesy, construction, and land development.


Student enrollment is less than optimal. While there are plenty of jobs with excellent salaries for graduates, it is hard to attract students to the surveying program. Recent trends show the enrollment is rising.

In the future, the surveying program plans to expand distance education courses allowing students to obtain many if not all surveying courses utilizing distance education. There is now a Professional Science Master's degree in Engineering and Business with a concentration in surveying that is offered entirely on line.

The tuition for distance education courses for non-Maine residents enrolled in the Professional Science Master's degree program is only 1.25 times the in-state tuition. Veterans receive in-state tuition rates.

In the near future, the surveying program plans to partner with community colleges, engineering, or forestry programs in those states that do not have a surveying program in order to be able to offer dual degrees to provide surveying graduates for that state.

If the distance education surveying engineering technology program is approved the tuition rate will be 1.25 times the Maine in-state tuition. Veterans already receive in-state tuition rates.

If any state surveying society or non-surveying program would like to explore this option for their state, contact Ray Hintz at [Raymond.Hintz@maine.edu](mailto:Raymond.Hintz@maine.edu) You can also contact Ray if you would like information on the master's degree with a surveying concentration. 

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## Red River land lawsuit ends settlement

*A lawsuit between landowners in northern Texas and the federal government over land near the Red River ended in a settlement that specifies the boundaries of federal land and rolls back survey efforts by the Bureau of Land Management.*

*by Matthew Choi, The Texas Tribune, Nov. 8, 2017*

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*Texas landowner Tommy Henderson speaks to a gathering of politicians, landowners and others at a bridge over the Red River near Byers, Texas, on April 28, 2014. Robert W. Hart*

A nearly 10-year-long saga involving ranchers, federal agents and the Louisiana Purchase came to an end Wednesday when parties in a federal lawsuit reached a settlement.

Seven families owning land by the Red River in northern Texas filed a lawsuit against the federal Bureau of Land Management in 2015 after the bureau began surveying land in 2009 that the families had occupied for generations. The families, represented pro bono by the conservative Texas Public Policy Foundation, claimed the bureau had committed an “arbitrary seizure” of land they maintained and for which they paid taxes. The bureau claimed a 1923 U.S. Supreme Court decision granted the federal government control of the land, based off of agreements originally formed in the Louisiana Purchase.



The settlement details the boundaries of the border between Texas and Oklahoma and the federal land along the Red River. It also cuts back much of the bureau's surveying activity on the land, which originally thrust the dispute into the national spotlight.

Several counties and the Texas General Land Office, which managed land in the disputed area, joined the suit on the side of the families. State leaders including Gov. Greg Abbott supported the families in the dispute, and Attorney General Ken Paxton motioned to intervene on behalf of the state. Some of the land maintained by the General Land Office contained mineral assets that contribute to the Texas Permanent School Fund.

Texas Land Commissioner George P. Bush called the settlement a victory for private property rights and schoolchildren in the state in a Wednesday news release.

“For more than 180 years Texans have stood up against anyone who would attempt to infringe on our property rights,” Bush said in the release. “Texans have always defended our land and our rights. At the end of the day, the saying remains true: Don’t mess with Texas.”

A spokesperson for the Bureau of Land Management deferred comment to a Department of Justice spokesperson, who declined to comment. 🟩



# DARRELL PRATTE – ROBERT E. MYERS SERVICE AWARD

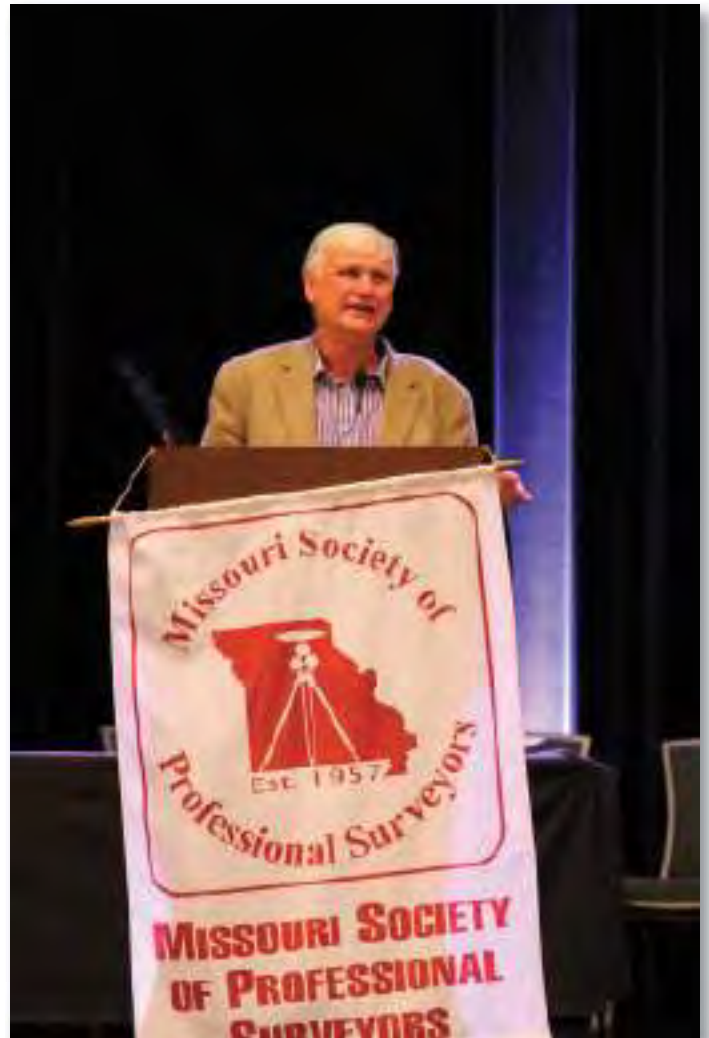
*As presented by Curtis McAdams at the Annual Meeting*

The Robert E. Myers Service Award is presented each year to a member of MSPS, who has shown exemplary service and dedication to the surveying profession and to the organization throughout their career. This year's recipient is a very deserving individual who holds his career as a land surveyor in high regards and has persevered to reach the top of his profession.

What is service and what does it mean to you? To me, services means giving of ones time to put the needs of others above our own personal wants and desires. This year's recipient was one time quoted as saying "Being a professional land surveyor is all I wanted to do since I was in high school. Now I find myself in a position to serve the citizens of Missouri by helping preserve the land survey records and the marks that have been left behind by the surveyors who came before."

This year's recipient began his surveying career in 1975 as a chainman for S.H. Smith and Company in Poplar Bluff. He became licensed in 1985 and in 1987 accepted a Land Surveyor position for the Missouri State Park System, a position he held until 1991. From 1991 until 2004 he was a project surveyor with the Cadastral Survey Section of the Missouri State Land Survey Program. In June 2004, he accepted the position of Geodetic Survey Section Chief and was responsible for the Geodetic Survey Network in the State of Missouri. During his time with the State of Missouri, he worked under the only other two people to serve as state land surveyors, Bob Myers and Mike Flowers. In 2008, our honoree was appointed State Land Surveyor, a position he held until retirement in early 2017.

He has served on the MSPS Board of Directors and was President in 2009. He has also served on numerous committees including County Surveyors, CST, GIS/ Vision 21, Handbook, Scholarship, History, Legislative, Standards, Awards and Nominating. He has volunteered his time at the Missouri State Fair. When called upon he has always been willing to volunteer his time in any way that he could.



His ability to diligently serve as our State Land Surveyor, while adapting to change was remarkable. With this staff and budget reductions he effectively restructured the Land Survey Program and played a major role in getting the Land Survey Index and Land Survey Records online. He facilitated and oversaw the internal transition of the Land Survey program from DNR to the Department of Agriculture in 2013.

Ladies and gentlemen, please help me in honoring the exemplary service and dedication of this year's Robert E. Myers Service Award recipient, Professional Land Surveyor, Darrell Pratte. 🇲🇴

# JOSEPH CLAYTON – SURVEYOR OF THE YEAR

*As presented by Curtis McAdams at the Annual Meeting*

Each year since 1987, the Surveyor of the Year Award has been presented to a dedicated and accomplished member of MSPS. The recipient is one who upholds the principals of land surveying, while giving their time and efforts to better the land surveying profession through the organization.

This year's recipient has served on multiple MSPS committees including: GIS/Vision 21, Standards, Legislative, and Awards/Nominating. He has also a Past-President of MSPS.

As a teenager he was first exposed to land surveying through a vocational drafting class in high school. He then joined the US Army and was a Field Artillery Surveyor in the early 1980's with a specialty in high-accuracy surveying for the targeting of tactical missile systems in Cold War Germany.

In 1985 he joined the Joplin District of MoDOT and became the youngest Survey Party Chief ever. He led their statewide *Surveying Equipment and Policy Team* in the early 90's before being assigned to MoDot Headquarters where he guided the department's program for *Total Station Acquisition and Data Collector Training*. He then returned to Joplin and became one of MoDOT's first-generation of Registered Surveyors when that Department adopted property boundary surveys for right-of-way at the beginning of the century. Looking for a new challenge in life he moved to the Missouri Department of Conservation in 2006 to manage their Wildlife Land Boundary Program before becoming the ranking surveyor for the State Commission in 2013 leading all Conservation surveying operations. He is graduate of the University of Wyoming Land Survey Program and U.S. Army Artillery School. He considers being a Missouri surveyor and having been a Missouri public servant as great honors.

In 2016 he was a driving force for the 200th year Anniversary of the Osage Treaty Line and also participated in the Joseph C. Brown ceremonies. He has authored several articles for the "Missouri Surveyor", with the most recent article being published in the December 2016 edition "Joplin five years later".



He is a serious coin collector, an avowed fan of German cuisine and port wine, enjoys genealogy and Missouri history, and claims to be a better crappie fisherman than anyone he knows other than his Dad. The son of a Teamster, an admitted momma's boy, a proud father of two adult sons, and a dotting grandfather of two little girls.

For his dedication to land surveying and MSPS, please help me congratulate and wish a special Happy Birthday to the **2017 Surveyor of the Year, Joseph Clayton.** 🇺🇸



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## From the Annual Meeting

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*MSPS Presidents, past and present, were honored guests at the Annual Meeting.*



*The transfer of leadership as the gavel is passed; new President Gerald Bader (L) and Past President Joe Clayton.*



*Aubrey Meyer shooting (Duck Joe...and Duck!) and Robert Ross looking on during the Trap Shoot.*



Newly licensed PLS's are sworn in by Dan Govero and Mike Flowers of the Land Survey Division of the Board of Registration.

The SURV-KAP logo is a circular emblem with the text "The Landmark Name SURV-KAP In Survey Products". Surrounding the logo are various surveying products, including metal caps, plastic caps in yellow, orange, and purple, and surveying tools like a level and a spirit level.

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A circular seal with the text "100% Satisfaction Guarantee" and a star.

## From the Annual Meeting



*MSPS trap shooters (L to R) Kellan Gregory, Joe Clayton, Robert Ross, Tyler Connor, Austin Welch, Mark Hawkins, Clayton Hawkins and Aubrey Meyer. The sponsors listed on the signs in the foreground provided funds for the MSPS scholarships.*



*Curtis McAdams presents the Myers Service Award to Darrell Pratte.*



*Kellan Gregory.*



# Thank You to Our Exhibitors

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Missouri Department of Agriculture ~ Ozark Laser & Shoring  
Seiler Instrument Company ~ Surdex Corporation  
Surveying & Mapping ~ Surveyors Materials ~ Topcon Solutions Store  
State Technical College of Missouri ~ The Underground Detective  
Zahner & Associates



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## Missouri Surveyor Profile: New MSPS President Gerald Bader

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At the Annual Meeting of the Missouri Society of Professional Surveyors Gerald Bader was installed as President. The President of Bader Land Surveying, Inc. he is also the Ste. Genevieve County Surveyor and is presently serving his 5th term.



Gerald is a four time President of the Missouri Association of County Surveyors.

*(Mo Surveyor) What inspires you to serve as President of MSPS?*

**(GB)** Better answered by the recent Annual Meeting, *A Celebration of the Past 60 Years*. I want to carry on the accomplishments of the past 60 years.

*(Mo Surveyor) What does leadership mean to you?*

**(GB)** Communication, having passion, dreaming for a better Society.

*(Mo Surveyor) What issues are the most important for MSPS to address?*

**(GB)** How will the profession survive in the future? How to promote the profession to the younger generation.

*(Mo Surveyor) What is the most important quality for an association president to have?*

**(GB)** Keep your feet on the ground. Be a good listener and keep moving forward.

*(Mo Surveyor) What do you consider your most important contribution to MSPS?*

**(GB)** Hoping this is yet to come. For today it is the support to MSPS and the surveying profession.

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## Missouri Surveyor Profile: New MSPS Director Jerrod Hogan

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At the Annual Meeting of the Missouri Society of Professional Surveyors Jerrod Hogan was installed as a Director. He is a Vice President of Anderson Engineering and Principal of their Joplin office. Jerrod was a charter member and founding president of the Southwest Chapter of MSPS.



A Professional Land Surveyor licensed in Missouri, Oklahoma, Kansas and Arkansas Hogan is also a licensed private pilot and certified UAV (Drone) pilot.

*(Mo Surveyor) What inspires you to serve on the Board of Directors of MSPS?*

**(JH)** First, I am proud to be a surveyor and excited at the opportunity to serve. I am inspired to serve and follow in the footsteps of many great surveyors who have dedicated time and energy to create, build and maintain the Society and the profession.

*(Mo Surveyor) What issues are the most important for MSPS to address?*

**(JH)** In my opinion, the most important issue for MSPS is to revive the survey profession. Like all of us, I have watched the number of new licensee's dwindle and that scares me. I know the board and MSPS have been working to address this issue and we need to continue that effort.



*(Mo Surveyor) What do you think is the most important quality a board should have?*

**(JH)** I believe the most important quality of the board is to be active. I have had the opportunity to serve on many boards over the last twenty years and many of them were passive. The most effective boards however were filled with diverse opinions, candid discussion and active members

*(Mo Surveyor) What is the most important quality for a board member to have?*

**(JH)** I think the most important quality for a board member to have is respect. Respect for the profession, the members, the Society and fellow board members. I believe that if we respect each other it clears the way for candid discussion, sharing of ideas and hopefully better decisions.

*(Mo Surveyor) What do you consider your most important contribution to MSPS?*

**(JH)** I guess I would have to say my most important contribution to MSPS to date is being one of the charter members of the Southwest Chapter and a part of the team that created and built the chapter into what it is today. I believe MSPS is stronger as a result of many vibrant chapters across the state and I am proud of my fellow Southwest chapter surveyors.

## **Missouri Surveyor Profile: New MSPS Director Matt Thomas**

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At the Annual Meeting of the Missouri Society of Professional Surveyors Matt Thomas was installed as a Director. A second-generation Land Surveyor (son of Price S. Thomas, PLS 847), he's currently the County Surveyor for Boone County.



Matt has also volunteered his professional services traveling to Africa with Engineering Ministries International on three separate occasions, visiting 8 different countries including Sierra Leone, Tanzania, Zambia, Zimbabwe, and South Africa.

*(Mo Surveyor) What inspires you to serve on the Board of Directors of MSPS?*

**(MT)** I wanted to serve as a member of the MSPS Board of Directors to be more involved in our society and to help guide our profession in the years to come.

*(Mo Surveyor) What issues are the most important for MSPS to address?*

**(MT)** I feel the most important issues for MSPS to address is the licensure growth of our profession and the education of our members regarding new technologies as it becomes more available and implemented.

*(Mo Surveyor) What do you think is the most important quality a board should have?*

**(MT)** To act in the BEST interest of our society and profession.

*(Mo Surveyor) What is the most important quality for a board member to have?*

**(MT)** To be willing to listen to any and all members no matter the cause or concern.

*(Mo Surveyor) What do you consider your most important contribution to MSPS?*

**(MT)** Staying active in MSPS, other than meeting/seminar attendance, through committees or volunteering in other ways.

# A Glimpse Into the Past

by Joe Clayton

Fresh off the heels of our successful Annual Meeting with its recognition of 60 years of MSPS, I was given a glimpse into the past of our Society – the handout materials from a 1986 Spring Workshop! Greg Bowers, the Survey Coordinator for Anderson Engineering's Joplin office had the information in his collection of surveying reference writings. As a second generation surveyor Gene has a particularly keen interest in maintaining established knowledge sources. He possesses a three-ringed binder from what was billed as the "10th Annual Spring Workshop" he attained from Howard Sherman. Mr. Sherman had been a partner in Sherman & Bowers Survey Co. A one-time Cass County Surveyor, Howard passed away in 1987.

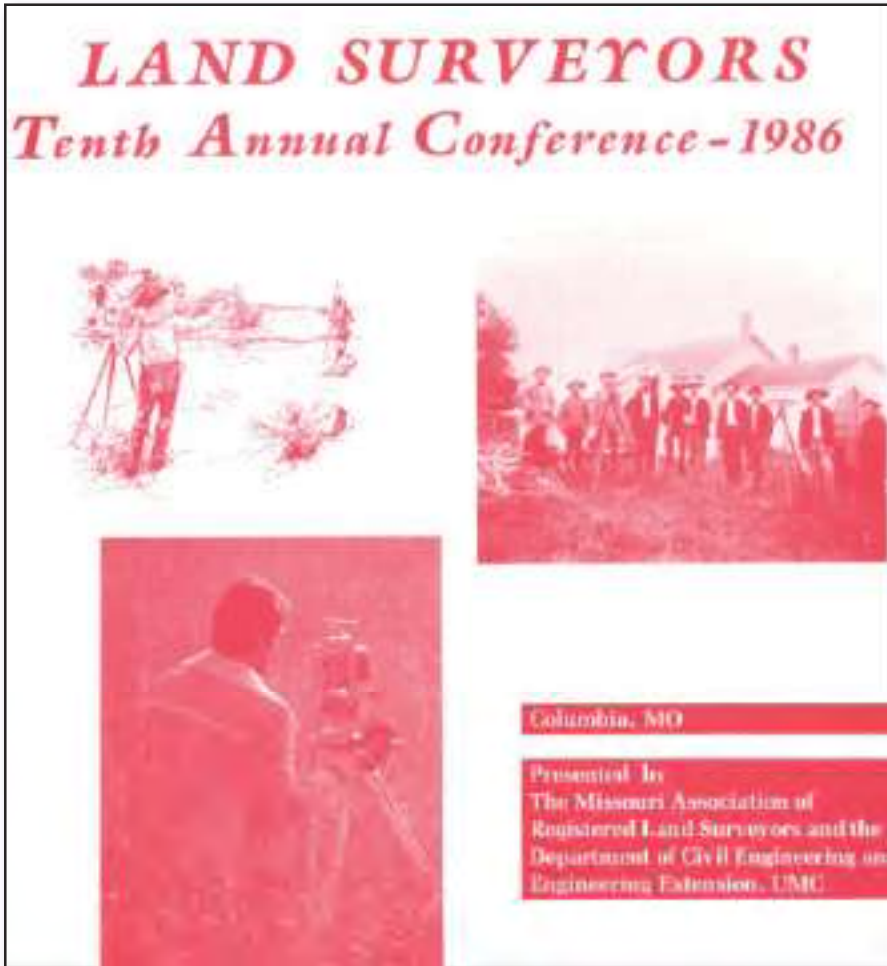
Hosted by our Society, then known as the Missouri Association of Registered Land Surveyors (MARLS), the event was presented in partnership with the Department of Civil Engineering and Engineering Extension of the University of Missouri, Columbia. With an agenda driven by what was then "new breed" instruments, off-board data collection units and automated computing systems the event could have been entitled "The Coming of Automation in Surveying."

Some of the top surveyors of 20<sup>th</sup> Century Missouri were speakers at the event giving their take on systems, methods, components, costs and savings associated with electronic instrumentation and automated surveying office systems. Two things struck me as astounding as I read through the materials; 1) many of those speakers leading the seminars still do so today, and 2) the surveying future they were imagining that day is now our surveying past!

PROGRAM	
Friday, March 7, 1986	Saturday, March 8, 1986
8:30 Registration	8:00 The Surveyors Module System – <b>Rich Bowen</b> , Bowen & Lawson and <b>Stanley Trent</b> , Surveyors Module Inc.
9:30 Introductions	8:45 The C&G System – <b>Timothy Reed</b> , Engineering Surveys and Services and <b>Ed Cowherd</b> , C&G Software Systems
10:00 Evaluating today's new breed of electronic instrumentation – <b>Tom Donahue</b> , Automated Engineering and Office Systems	9:30 The Carlson-Patten System – <b>Berman Ellerbrock</b> , Miller Associates and <b>Charles Patten</b> , Carlson-Patten Corp.
10:45 Break, courtesy Seiler Instrument Co.	10:00 Break
11:15 Electronics and data communications terms – <b>Al Koenigring</b> , The Lietz Co.	10:30 The Carlson-Patten System – continued
12:15 Lunch	10:45 The SP01 System – <b>Rodney Barfield</b>
1:15 The Geodimeter System – <b>Tom Arneson</b> , BRW, Inc. and <b>Fred Myers</b> , Geodimeter	11:15 Building a system – <b>Rodney Linker</b> , Lühr Brothers
2:00 The Wild System – <b>Donald Koen</b> , Koen Surveying Co. and <b>Dan Bongiovanni</b> , Wild Heerbrugg	11:45 Questions, answers, comments
2:45 The Lietz System – <b>Jerry Wright</b> , Metropolitan Bands Engineering, Inc. and <b>Dan Loshenkohi</b> , The Lietz Co.	12:00 Lunch
3:30 Break, courtesy Mr. Trancil	1:00 The age of integrated components – <b>Richard Elgin</b> , Elgin, Knowler and Senne, Inc.
4:00 The Nikon System – <b>Patrick Behn</b> , Colton-Lester Corp. and <b>Andrew Donovan</b> , Nikon, Inc.	1:30 Analyzing costs, savings and financing – <b>Joseph Paiva</b> , University of Missouri – Columbia
4:45 Questions, answers, comments	2:15 What's on the horizon – <b>Paiva</b>
5:00 Registration, certificates awarded to newly licensed surveyors	3:00 Closing comments
5:15 Adjourn to view exhibits, concurrent cash bar, courtesy of Griner and Schmitz	3:30 Adjourn
7:00 Close exhibits	

Howard Sherman had kept all of the manufacturers' sales booklets and paper work. I found myself looking at Geodimeter 140, 220 and Geodat 126 spec sheets. Also included were the then Sokkia Set 2 and 3 along with a Lietz SDR 2 spec sheets. Pricing was included; a SDR 2 went for as little as \$2995 and a Set 3 for \$11,500. Dr. Richard Elgin provided an estimated cost of a total office and field system at just under \$27,000. This price included a crazy fast huge storage capacity 256K IBM PC with a color monitor!

Dr. Joseph Paiva closed the program with, "What's on the horizon?" Dr. Paiva discussed best practice methodology and redundancies that have become common order of operation in today's surveying. He also had an overview of something called a "Global Positioning System" and how it could be a game changer.



Almost everything equipment related that was brand new in 1986 surveying is obsolete over 30 years later. The equipment and software have greatly advanced, but the need to understand the newest and latest technology is still needed, which is why we will have our 40<sup>th</sup> Annual Spring Workshop at the Lodge of the Four Seasons on May 4<sup>th</sup>.

Every now and then it's good to look back to remember how far we have all come. It's also good to look at the passion brought forth by speakers such as Dr. Elgin and Dr. Paiva, who are still our speakers today. I would like to thank them for keeping us on the future track of improvement! 🇺🇸



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# Can Surveyors Do More with Less by Using Drones?

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by Jeremiah Karpowicz, October 19, 2017, Commercial UAV News

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Being able to “do more with less” is a concept that has always been top of mind for survey professionals, and it’s part of the reason so many are looking to work through the logistics of aerial surveying with a drone. UAVs have made a real impact in terms of making a given task cheaper, faster or safer for surveyors, all of which mean they’re able to be that much more efficient. It’s a concept that could become incredibly important if the demand for this type of survey work increases in the near future. And there are numerous indicators that it will.

“Grow your business without hiring” is an article from the Aerotas team, and it lays out how this kind of efficiency can be achieved by using drone technology, and why it will soon be essential to do so. The piece explains how drone technology can allow someone to get 5x the amount of work done, reduce the resources that are needed for a given project and attract an entirely new type of person for positions that do need to be staffed.

Being able to “do more with less” is a luxury that is quickly turning into a necessity for surveyors, and that concept is something we wanted to further explore. To find out why it’s going to be so important for survey professionals in 2018, we connected with Daniel Katz, Co-founder at Aerotas. We discussed why he thinks there’s going to be so much job opportunity next year, what impact the Aerotas Mapping System will have on anyone who needs to be that much more efficient, how young people interested in the profession should be approaching getting into it, and plenty more.

*Jeremiah Karpowicz: You mentioned that surveyors are struggling to keep up with an unprecedented workload in every state, but what kind of work is this? Are these jobs distinct or different than the work that was happening in the pre-2008 environment?*



Daniel Katz: It’s a pretty eclectic mix of work — the work that was bottled up since 2008 has come uncorked. There are development projects that started before 2008 then stalled after, and are now being restarted and require survey for design. There are new development projects launched by investors looking for places to put growing earnings, that require survey for planning. There are properties changing hands as the economy becomes more liquid, which require survey for land title transfer. There is a ton of new construction happening that requires all parts of survey: existing conditions, topography for planning and design, grade-checking, volumetrics for verifying earth works subcontractors, as-built for post-construction, and inventory for handover. And nearly every one of these types of survey can be done faster, cheaper, and more profitably with the right drone workflow.

*What are some of the indicators you’ve seen that tell you 2018 is primed to be even bigger in terms of these job opportunities?*

The most important piece of evidence is what we're hearing from our land survey clients: they are signing even more contracts today for work to be done in 2018. Broad economic indicators reinforce this, with interest rates remaining low and an increasingly dynamic workforce moving to new and rapidly growing population centers. What's remarkable is how consistent this story is in very different parts of the country. We have a unique perspective on the industry given our nationwide footprint. Of course there are exceptions, but by and large we're hearing the same story in every geographic part of the country: the 2017 construction season was (and continues to be) maddeningly busy, and our clients say their clients indicate that next year will see this trend intensify.



*If that's the case, then being able to "do more with less" is practically a necessity, but how do you position that concept with surveyors who don't think that's possible? I imagine there are professionals who believe they're already being as efficient as they can be, and if they had anything less they wouldn't be able to do their job.*

You are highlighting a definite challenge: helping survey business owners understand how to strategically do "more with less."

First, it's important to set some basic expectations: a drone is never going to replace a surveyor fully, nor eliminate the

need for surveyors to put their boots on the ground on a project site. What it does, however, is dramatically reduce the amount of time they need to be on-site — that's where that 90% time savings comes in.

There is definitely some "too good to be true" bias we face when introducing surveyors to our system, which usually boils down to two concerns: accuracy and total workload. 1. Accuracy. The hype-storm of the drone industry led to some over-ambitious accuracy claims, complicated by drone makers not understanding how surveyors understand accuracy. We have done exhaustive research and testing to support our system's all-in accuracy as better than 0.1' vertical — which is industry-best. This accuracy comes

from comprehensive field testing and statistical analysis based on ASPRS Positional Accuracy Standards, not just ground sampling distance nor selective spot-checks.

2. Workload: the 90% field time savings is real, and comes from being able to substitute a quick drone flight for the time-intensive process of walking a grid over an entire site. However, it still requires office-work to produce their final survey, and this is where many surveyors get burned, spending 2-3x longer in the office wrestling with image-stitching and CAD than they would have conventionally. Our system solves for this, by implementing a complete workflow that is surveyor-specific and side-steps the most time-intensive

components. Our clients regularly report that they spend the same amount of time in the office as if they had done the same project conventionally. This usually equates to a total project savings of 50-65% man-hours.

Ultimately it all comes down to workflow. The drone is simply a tool that enables a new workflow — the drone may be the exciting part, but the right workflow is what makes it a profitable and effective tool.

*(continued on next page)*

## Can Surveyors Do More with Less by Using Drones? *(continued)*

*In terms of the industry needing to evolve, some of that plays into the concept of using a drone as a tool in a hybrid workflow, doesn't it? Seems like that can be an especially interesting challenge for anyone who wants to pursue this as a profession.*

Land surveying is a challenging profession! That's what makes it exciting. Surveyors have historically been at the forefront of new technologies: metric cameras, GPS, robotic total stations, laser scanning/LiDAR, and now drones. Having a variety of tools to choose from project-by-project has always been part of the profession, so in that regard there is nothing new about a drone. What is new, however, is learning how to use multiple tools on one job, as our clients do. With our coaching, our clients rely on the drone on parts of a project site where it is a time-saver, and rely on ground collection for other parts. The initial instinct is often that they need to just use one tool for the entire project, but with the right workflow, it's easy to merge data from different tools together, thereby getting the best of all worlds.

Another huge benefit of the Aerotas Mapping System is that compared to most surveyor tools, it's incredibly easy to use. Survey-grade GPS and total stations are very specialized and complex tools, that require a great deal of experience to use effectively. By contrast, our drone system requires minimal specific previous experience. We see a lot of businesses misstep by thinking they need to hire a specialized "drone person" to run their new drone program, but the truth is we can take anyone — from young chainman to the head of the survey department — and quickly make them a proficient drone operator.

*It will be exciting to see how drones spur the future growth of the survey industry as a whole, but what do some of these younger people need to know about in terms of making a career in this industry? They need to do much more than simply buy a professional-grade drone, don't they?*

The first thing to understand for potential new "drone surveyors" is that the "surveyor" part is much more important than the "drone" part. Surveying is a rich, complex, and fascinating discipline, which is today being made even more exciting by the incorporation of drone

technology. A number of survey programs at universities are starting to include drone basics into their curricula, so they can expect to be getting their hands on the technology early on, but most of their focus is best spent on learning the basics of surveying.

Similar to the misconception that survey firms need to hire a specialized "drone operator" for their drone program, another misconception is the belief that they need to buy a drone that is advertised as "professional-grade"... and expensive. Drones have quickly become commoditized, and we're producing industry-best accuracy (better than 0.1' vertical) with inexpensive "prosumer" drone. The drone doesn't need to be "professional-grade," but the operator does! We keep seeing over and over again that high-quality, proven training and ongoing support on best practices for safety and accuracy is essential to a profitable drone survey program.

*What would you say to anyone who doesn't think 2018 will see this kind of growth in terms of job opportunities? And that perhaps they won't have a need to "do more with less", and they can move forward just fine with their traditional approach?*

What we have been talking about here are broad themes, which may not apply to absolutely every surveyor, business, or geographic area. There are certainly parts of the country that are not experiencing huge growth, but I can attest to that being the minority. I always encourage business owners in these lower-growth areas to think about how they can make their business healthier and more viable even despite the lack of growth. By including high-resolution aerial orthophotos as base-maps to their surveys, they can charge more money for each survey. By using our drone system to save time on each project, they can use the extra time to explore new potential customer bases or product offerings. A drone program can be a potent marketing tool to help spur new business in their area.

Compared to other survey tools, our drone system is quite inexpensive, so we have several clients who have purchased it as an investment to try to grow their business in new ways, and it has paid off! 🇺🇸

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# Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects

## Title Blocks: Identify Your Work

by Edwin Frownfelter, Litigation Counsel, from Dimensions newsletter of MOAPEPLSPLA

The Code of Professional Conduct, at 20 CSR 2030-2.050(1), requires that “An architectural, engineering, land surveying, or landscape architectural entity shall incorporate a title block on all drawings, exhibits, plans, plats, maps, and surveys that are required to be signed and sealed by Chapter 327, RSMo, and these regulations.” An entity may be a company or an individual licensee, but in any event all projects which require a seal must also contain a title block. The Board has clarified that the requirement of a title block is not satisfied merely by including the required information somewhere on the page. The title block should be enclosed in an outline of some shape, usually a rectangle along one edge of the page or in one corner containing specific information within that outline. The elements required in a title block are specified in 20 CSR 2030-2.050(2). The title block must show:

- The name of the licensee either as sole proprietor, partnership, corporation, limited liability company, or other entity;
- The licensee’s address and phone number;
- The name or identification of project;
- The address/location of project, including city or county and state;
- The date prepared;
- The printed name, discipline, and license number of the person sealing the document; and
- The printed name, discipline, and certificate of authority number of the organizational entity, if any.

It must also contain a space where the licensee’s seal, signature, and date are to be placed. It is essential that the title block contain the contact information for the person who seals the document and/or the entity with which that person is associated, not some other party. The Board has found title block violations where a licensee seals a document prepared by and showing in the title block some other entity, such as a professional engineer sealing a fire alarm plan showing an unlicensed fire protection company as the contact point in the title block. Licensees have also run into title block issues by sealing plans showing contact information for companies with which they are associated,


but which do not hold a Missouri certificate of authority. If a licensed person is hired or employed by a company not holding a certificate of authority, the licensee should make sure his or her contact information is in the title block as a sole practitioner, as the rule clearly requires that the party identified in the title block be the “licensee.”

See pages 34 and 36 for FAQs and an example title block.

### New Missouri Surveying Standards

Please be advised that the new Missouri Surveying Standards went into effect June 30, 2017. All Missouri licensed professional land surveyors are required to practice in compliance with the new standards; therefore, you are encouraged to study and become very familiar with them. In addition, all complaints involving possible violations of surveying standards will be evaluated by the Board using these new standards. To view the new standards, please click on the below links:

- [www.sos.mo.gov/cmsimages/adrules/csr/current/20csr/20c2030-16.pdf](http://www.sos.mo.gov/cmsimages/adrules/csr/current/20csr/20c2030-16.pdf)
- [www.sos.mo.gov/cmsimages/adrules/csr/current/20csr/20c2030-17.pdf](http://www.sos.mo.gov/cmsimages/adrules/csr/current/20csr/20c2030-17.pdf)
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If you have any questions, please contact the Board or call (573) 751-0047. 





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## MSPS Online Education Portal

Many Missouri surveyors have now gone to the MSPS online education portal (accessible through the MSPS website) to take continuing education courses for surveyors' professional development. While the majority of enrollments have been for the former Minimum Standards Courses, there have also been enrollments for other general surveying material on topics varying from ALTA surveys to state plane coordinates to RTK surveying to geodesy and more.

We are pleased to report that with the help of Missouri State Surveyor Ron Heimbaugh and his staff, we are creating new courses reflecting the new Missouri Standards for Property Boundary Surveys as well as other content taught by other staff within the Missouri Land Survey.



By the time this article prints, some, if not all of the new courses will be available for your enjoyment. Check them out!



Get to the portal at the MSPS website: [www.missourisurveyor.org](http://www.missourisurveyor.org)  
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## **TITLE BLOCK FAQs – Board Rule 20 CSR 2030-2.050**

This rule states that all drawings must include a title block. There have been a number of requests for clarification of portions of this rule. A title block is an outline of some shape, usually a rectangle along one edge of the page or in one corner containing specific information within that outline. The minimum information required by the rule must all be included within that outline, though it can be included elsewhere as well.

The elements required to be within that line are:

- licensee name (person or company) address and phone number;
- name of project and address or location;
- date prepared;
- licensee's seal, signature and date;
- printed name, discipline and license number of person sealing the drawing; and,
- printed name, discipline and Certificate of Authority number of a corporation, if applicable.

**Specific answers:**

**Q: 20 CSR 2030-2.050(2)(A) *The name of the licensee either as a sole proprietor, partnership, corporation, limited liability company or other appropriate entity – Does this mean that the company's type of organization (sole proprietor, partnership, corporation, limited liability company or other) must be stated in the Title Block?***

**A: Only if it is a part of the organization's legal name. Such as "Smith and Associates, a partnership."**

**Q: 20 CSR 2030-2.050(2)(B) *The licensee's address and phone number – Does this refer to the company or person?***

**A: Company**

**Q: 20 CSR 2030-2.050(2)(G) *The printed name, discipline and license number of the person sealing the document – Since individuals are not licensed by discipline (electrical, civil, etc.) what is the intent, or how do we comply?***

**A: It is meant to differentiate between the disciplines of architecture, engineering, land surveying or landscape architecture.**

**Q: 20 CSR 2030-2.050(2)(H) *The printed name, discipline and certificate of authority number of the corporation as defined in section 327.011, RSMo – Since the company is not licensed by discipline, and in fact may encompass several disciplines, what is the intent, or how do we comply?***

**A: It is meant to differentiate between the disciplines of architecture, engineering, land surveying or landscape architecture.**

(See sample on page 36)



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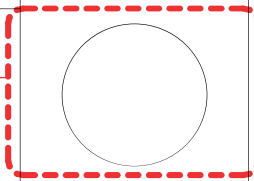
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PROJECT LOCATION, INCLUDING  
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Project No: 0830

No	Description	Date
	Permit Set	April 1, 2009

SPACE FOR THE LICENSEE'S  
SIGNATURE, DATE and SEAL



PRINTED NAME , DISCIPLINE and  
LICENSE NUMBER OF PERSON  
SEALING THE DOCUMENT

David Butler Yates - Architect  
MO# A-68765

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Joe Paiva



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# Holiday Helping Hands

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by Donald Martin

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Do you know where the best helping hand in the world is? As my grandfather used to say, it is at the end of your own sleeve. I believe that; I believe I live that. Indeed, isn't that the story of many of the successful people we all know? Through your own hard work, self-reliance, smarts and ingenuity, you have *it made*. One Christmas season I had a wonderful example of this truth. It occurred 10 years ago...

I had taken up my own call to service through a few endeavors in my town. I was active in a community organization sponsoring a number of drives and campaigns on behalf of good causes and worthy efforts in helping those needing help. I also became a literacy tutor helping adults learn the essential ability to read and comprehend the written word. But my favorite act of service was a weekly shift as a helper at our local food pantry.

As my shift approached, my family and I reported for duty on a Thursday afternoon at the Center. That's the grocery day there – folks needing a little help to get by come to get a little food to stock their empty cupboards. My wife and daughter went to work in the back room gathering and sorting the grocery allotments. It was a natural fit for these two shopping pro's. They would read the order tickets filled out by the clients and then move about the shelves filling carts much like is done for their own marketing. Being recognized as the genius I am possessed of a multitude of talents, I was accorded a job suitable of my intellect and skills – I was assigned “bagboy” duty. Actually, that is what I like to do there – offer whatever help I can give, doing whatever duty is needed.

Well, that afternoon was not just any day. It was the last grocery day the Center was going to have before Christmas. That was just how the calendar fell that year. A few too many days between distribution day and Christmas Day. And the lines of those *in need*, were lines too long indeed. Hundreds of people awaiting what may be their Christmas dinner and all that would be their sustenance for the next week.

Near the front of the pantry where we distributed the groceries gathered the over-the-hill bagboys, some younger volunteers and a couple of students assigned to



community service for delinquencies. Our small number gathered to await the on-rush of a much greater number. We gathered to help those *in need* get their needed food out to their car, the bus drop-off, or in some cases the curb where they waited for a ride or sometimes a cart to roll home. Before the rush really started, a man from those *in need* came forward, introduced himself as “Devin” and asked to help carry groceries for others until the food for his own family was to be given. He was the only one from the crowd to come forward that day. That's not a judgment – I say it merely to illustrate the uniqueness of Devin's deeds that day.

The counter opened and we began to work. As the line slowly advanced to the service window, sorters pushed the fare they had gathered from shelves forward as we baggers filled our arms and followed the recipients out. Being so near the winter solstice, the early draw of the night made our sense of hurry more intense. It was also made intense by the small number of helpers, and the large number of needers. We were doing the best we could, and none did better, worked harder or carried more than Devin.

Finally near the end of the night, the call came out for Devin's groceries. He wasn't there to pick them up



because he was outside helping someone else. Instead, other volunteers gathered his foods and carried them out to an old car...guided there by his mother and young sister. You see, if you hadn't guessed, that man that came forward, Devin; he was a young man. A young man? He was a boy...a boy of about 11 or 12 years old.

He and his family needed help; so did hundreds of others. And because of the helping hands at the ends of that young man's sleeves, hundreds were served...served even before him, his mother and his little sister.

That boy knocked me right back on my self-righteous ass. He proved the best helping hand is at the end of your own sleeve – but it needs to be met by other hands. Hands extended to receive it, to hand help to it, maybe just to shake it or to take it. Yes, so many among us have made our way with the hands at the ends of our own sleeves. But those hands need not serve only ourselves. They are good for so much more, so many more. Yes I am to take of myself and mine but once I have done so I should offer what I could, for what is needed.

I am not so young anymore but as Christmas approaches I recall those helping hands of that little man, that young man. When I grow up, I want to be as good a man as Devin. Maybe I can do part of that by being a helper in helping. I've got two good hands at the ends of these sleeves. They are the best helping hands in the world.

Merry Christmas! 🇺🇸

### Cover Photo



At the MSPS 60th Annual Meeting in October our Society's past Presidents were honored guest.

Here, those present gathered for a photograph - (front row, l to r) Gerald Bader 2018, Charles Kutz 2000, Mike Flowers 1987, Bob Shotts 2004, Dick Elgin 1983, Jim Mathis 2016, Joe Carrow 2012, John Stevens 1996, Dan Govero 1990; (middle row, l to r) David Krehbiel 1978, Ralph Riggs 2010, Joe Clayton 2017, Erwin Gard 1991, Shane Terhune 2007, Rich Norvell 1993, Craig Ruble 2005; (back row, l to r) Mark Nolte 2011, Jim Anderson 1986, Robert Lewis 1984, Darrell Pratte 2009, Jack Beale 1998, Mike Zahner 2001, Troy Hayes 1999.

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