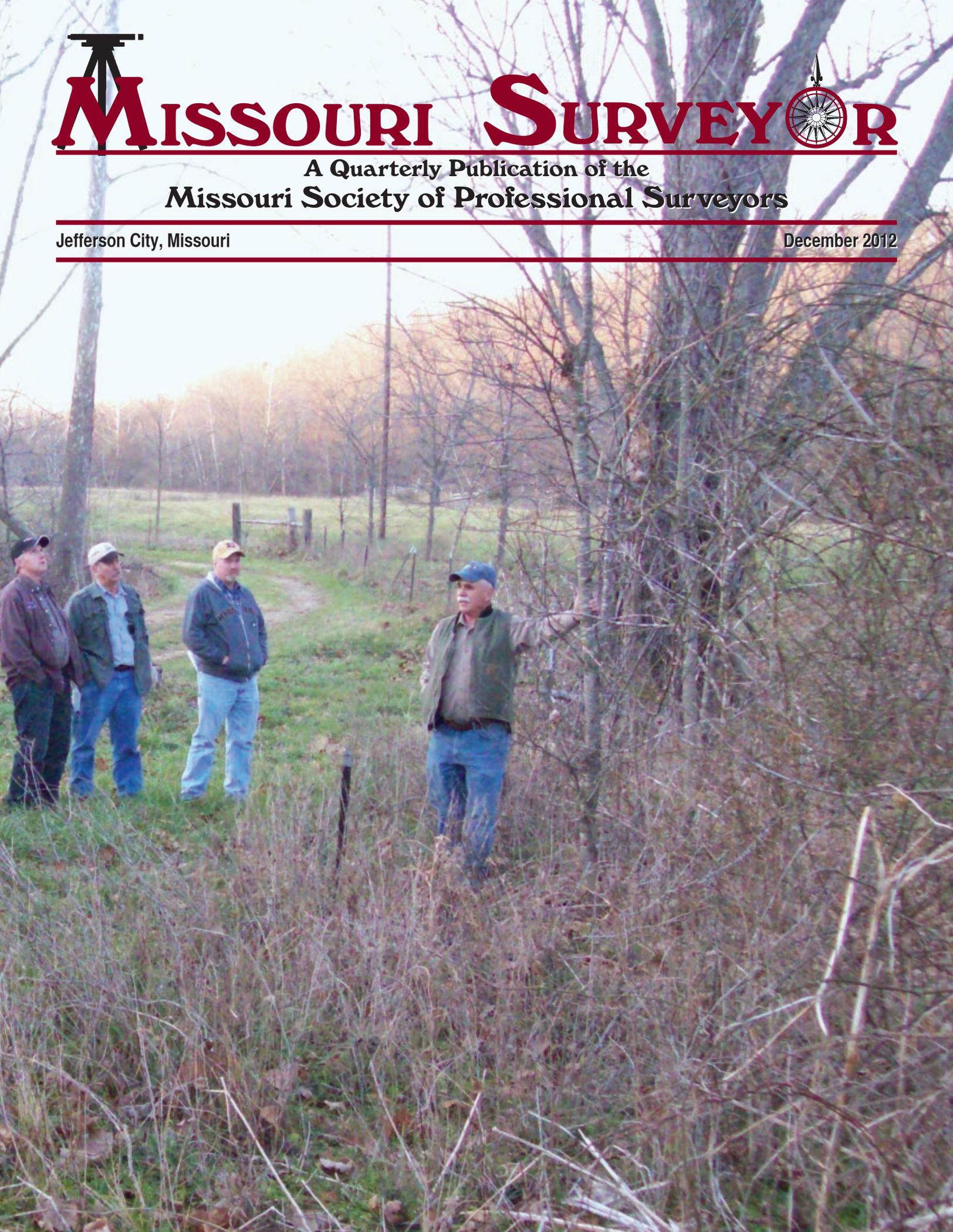


MISSOURI SURVEYOR

A Quarterly Publication of the
Missouri Society of Professional Surveyors

Jefferson City, Missouri

December 2012



CALENDAR OF EVENTS

2013-2015

February 20, 2013

Board Meeting and
Capitol Visitation
Jefferson City, MO

May 9-11, 2013

Board Meeting and
Spring Workshop
Lodge of Four Seasons
Lake Ozark, MO

July 12-13, 2013

Board Meeting and
Pac Fundraiser Golf
Tournament
Minimum Standards Workshop
Capitol Plaza Hotel
Jefferson City, MO

August 28-30, 2013

Review Course
Best Western Capital Inn
Jefferson City

October 10-12, 2013

56th Annual Meeting and
Convention
Tan-Tar-A Resort Golf Club
Marina and Indoor Waterpark
Osage Beach, MO

December 2013

Board Meeting
MSPS Office
Jefferson City, MO

May 8-10, 2014

Board Meeting and
Spring Workshop
Lodge of Four Seasons
Lake Ozark, MO

John Alan Holleck, Editor



Notes from the Editor's Desk

John Alan Holleck



Happy Holidays everyone, however, by the time you read this the holidays will have passed into memory. Yes, that is right the *Missouri Surveyor* is late this quarter. I have had trouble with my anxiety attacks and my back and both problems keeping me sleeping for long hours. As many of you know, Sandy has had trouble with kidney stones, which flared up while she was in Kansas City. She was able to receive treatment here and is feeling well enough to be in the office. Good for you Sandy, you came through with flying colors and were lucky

enough to be in Kansas City and get competent medical help. Well, on with the December issue of our journal.

As usual, my "Notes From the Editor's Desk, and the "President's Message, opens the body of information for this issue. This "President's Message" is offered by the Society's first Lady President—Sharon Herman. Chris Wickern next offers his and the Society's congratulations to "Madame President." John Hohol follows with "FIG Young Surveyors Network." FIG is a world organization, which allows surveyors from around the world to mingle and share ideas. Next, Missouri surveyor Steven E. Weible discusses the "GLO Surveys of Town and Village Lots." Mr. Weible develops the history of the territory described with example of what was accomplished. A letter to the members of MSPS follows asking for financial aid to keep the National Museum of Surveying functioning. Any help is appreciated. Next is Curtis McAdams announcement for "2012 MSPS Awards presented during Annual Meeting." I thank Curtis for his very fine effort.

The second half of the December issue opens with the "Memorandum of Understanding MOU Between the National Society of Professional Surveyors, Inc. NSPS and the Missouri Society of Professional Surveyors." Essentially, with an increase in annual dues, members of MSPS will become members of NSPS for **MUCH** less than an individual membership to each organization. MSPS recently conducted a mail vote for acceptance of the MOU and received four to one support in favor of the proposal. Next is a short article entitled "The Surveyor who survived a Major Earthquake". The article describes the quakes that hit the New Madrid area from December 1811 to February 1812. This editions' final article is "GPS and The Future of Surveying," by Ontario surveyors David Martin Horwood and G. Brent Hall. Thanks you all for another year as your Editor. I hope to serve for a while longer. 🇺🇸

John

THE MISSOURI SURVEYOR

Published quarterly by the
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	4 issues	1 issue
Full Page	650.00	200.00
Half Page	400.00	150.00
(horizontal or vertical)		
Quarter Page	250.00	100.00
Professional Card	50.00	N/A

COPY DEADLINE

March Issue — February 1
June Issue — May 1
September Issue — August 1
December Issue — November 1

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The Missouri Surveyor is published quarterly by the Missouri Society of Professional Engineers, to inform land surveyors and related professions, government officials, educational institutions, contractors, suppliers and associated businesses and industries about land surveying affairs. Articles or opinions appearing in this publication do not necessarily reflect the viewpoints of MSPS but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions as to its contents. Articles may be reprinted with due credit given.

President's Message

Sharon Herman, PLS

I am honored to be serving as the President of MSPS for the next year, following in the footsteps of our outgoing President Joe Carrow, who did a fine job leading the society this past year.

In October the MSPS Annual Meeting was held in St. Louis at the Frontenac Hilton. Joe Carrow completed his final duties as President by overseeing the Business Meeting on Friday morning and the Awards Luncheon at noon. Four of the newly licensed PLS and LSITs attended the luncheon and were recognized and presented with their certificates by the Board of Registration. Recipients were Christopher Smith, Tyson Watson, Kevin Williams and James Jasper. My congratulations to them and to all the newly licensed surveyors. I wish for them to have long and successful careers as surveyors.

Rich Howard, newly elected to the Board of Directors, was honored with the Robert E. Myers Service Award for his exemplary service and dedication to the Profession of Surveying. Congratulations Rich and thank you for the fine example you set as a Professional Land Surveyor. And my congratulation goes out to Chris Wickern, also one of the newest members of the board and the recipient of the Surveyor of the Year Award. Chris is very active in the Society and works tirelessly for the betterment of our profession.

MSPS had much success in the last legislative session, due in large part to the help and support we received from fellow surveyor and State Representative Bart Korman. To recognize his contribution to our society, he was presented with the Legislative Award. Thank you Bart for your continued support of our profession at the State Capitol.

I would also like to welcome Joe Clayton to the Board of Directors. Joe was elected to fill a vacated seat on the board. I am looking forward to working with Joe, and all the members of the board and committees this coming year.

The afternoon of the meeting was spent with Stan Emerick and Chris Wickern, Co-Chairs of the Standards Committee presenting to the membership the long awaited revised set of Standards. The Committee chairs did an excellent job of explaining and outlining the changes to the

(continued on next page)

Front Cover: Identifying trees as a part of the 16th annual Missouri Surveyors Retracement Workshop, November 29th and 30th at Fishwater Creek, Dent County, Missouri. The workshop also included GLO survey procedures and documentation as well as retracing 2 miles of the Township line between Townships 35 and 36 North, Range 5 West.

President's Message *(continued)*

standards and received much appreciated feedback from the membership.

The day closed with a fun tour and dinner at the Anheuser Busch Brewery. No better way to finish up a long day of meetings than with a draft of freshly brewed beer served ice cold.

As we head into a new legislative session, it is time once again, for us at the MSPS Board to focus on a number of issues placed on our agenda. The first being education. Last year the Board of Registration asked MSPS to revise the education requirements for licensure. Thanks to a special committee, chaired by Adam Teale, along with the legislative committee, this change is moving forward and winding through the legislative process.

As part of the bill passed for the restructuring of the State Land Survey Program, a commission is to be formed to oversee the Program. This commission is to be appointed by the Governor. MSPS is going to work diligently to see that these appointments get made in a timely matter.

Once the new set of Standards get finalized and approved by the MSPS Board, they will move on through the process at DNR for implementation.

A Ballot was sent out to all the MSPS membership at the end of October, proposing a dual membership of MSPS and NSPS. The members have overwhelmingly supported this measure. The new membership will go into effect with the 2013 renewal. What this means is that as a member of MSPS and NSPS, you will have access to all the benefits of the national society. But more importantly, Missouri surveyors will have a strong national voice on the issues that affect our profession.

As a final note, the local chapters of MSPS are an important part of our State Society and need to be represented on a State level. This representation provides the chapters a voice within the State Society and keeps the chapter membership informed of the State Society's activities. For that to happen, the Chapters have to play an active role in the State Society. I hope to foster and strengthen this relationship between Chapters and the State Society this coming year. 🇺🇸



James Jasper



L to R: Kevin Williams, Tyson Watson, Christopher Smith

“Madame President”

by *Chris Wickern, PLS*

Madame President may have an unfamiliar ring to it, but it is the correct form of address for the current President of the Missouri Society of Professional Surveyors. It is a remarkable and historic event. There are a growing number of women entering into the Profession of Land Surveying. It is natural that women become more involved in the Professional activities of this Society as their numbers continue to grow.

Our first woman President is Sharon Herman. Sharon did not grow up thinking she would be a Land Surveyor one day. She married her husband Joe not long after High School, and was a stay at home Mom before their daughters started school. Sharon then returned to school and received an Associate of Applied Science Degree in Architectural Drafting and Construction Technologies from Jefferson College in Hillsboro, Missouri. The required courses included courses in surveying. She found the surveying courses challenging and interesting, and knew this was a field she wanted to pursue.

Sharon found employment with Govero Land Services in 1991, and started as a surveying and engineering draftsman. She was mentored by Earl Graham, PLS, and was introduced to these three dimensional and historic puzzles that are boundary surveys. Those puzzles we Surveyors piece together using the record and field evidence. It fascinated her, and she got bit by the ‘Surveyors bug’ that brings many of us to the Profession. She soon found herself wanting to pursue licensure and in the field with another mentor, Tom Bryant, PLS. Mr. Bryant proved to be a patient and supportive mentor and was very instrumental in achieving her goal of a licensed Professional Land Surveyor.

Through out it all, Dan Govero PLS has also been a constant source of support and encouragement for Sharon. She has progressed from draftsman to where she now manages the Survey Operations for Govero Land Services. Mr. Govero saw in Sharon a conscientious person with an eye for detail and a desire to learn more. Dan says all he did was to give her an opportunity and she took full advantage of it.

On October 12th Sharon Herman was elected as the first woman President of the Society. Sharon comes to us after serving in various positions within the Society. A brief list of her dedicated service includes:

- The Public Relations/ Sales, and the State Fair Sub-Committee
- Legislative Committee
- Standards Committee
- Education Committee
- Secretary/ Treasurer
- Director

- Vice President
- President Elect

And now is our President of the Missouri Society of Professional Surveyors

Some of Sharon’s concerns as President will be to:

- Ensure the Land Survey Advisory Committee is appointed and working.
- Keep the revised Standards for Boundary Surveys progressing and on course for approval and implementation.
- Seek the recommended changes to the Education Requirements.
- Keep the Society focused on improving the quality of land surveying.
- Raising the public awareness of the Profession

This article opened with the thought that in one sense, it is a remarkable and historic event, and it is. Yet, in another sense, it is little more than the natural progression for a notable and dedicated Land Surveyor. 🇺🇸

Thank you Sharon

And

Welcome Madame President!



FIG Young Surveyors Network

by John D. Hohol, Head of Delegation to FIG

The FIG Young Surveyors Network (YSN) provides a great opportunity for young surveyors to join together, network and become involved with other young surveying professionals around the world.

A Young Surveyor is defined by FIG as a person 35 years old or younger or within 10 years of graduation with a Bachelors or Masters degree in surveying/geomatics.

The YSN was established as FIG Commission 1 (Professional Standards and Practice) Working Group 1.2 Young Surveyors at the FIG Congress in Munich in 2006. In 2009 it became the FIG Young Surveyors Network and currently has the status of a Commission-level body within FIG (International Federation of Surveyors).

The Purpose of the YSN is to:

- To improve the number of young professionals participating within the FIG.
- To help young professionals in the beginning of their careers with contacts.
- To increase co-operation between the commissions and the students and young professionals network.

The first Young Surveyors Conference was held in conjunction with the 2012 FIG Working Week in Rome, Italy. Over 120 young surveyors from over 40 countries participated. The next YS Conference will be held at the 2014 FIG Congress in Kuala Lumpur, Malaysia.

The YSN is a great resource for not only networking and becoming



friends and colleagues with other young surveyors from around the world but also provides information on opportunities for internships, scholarships, study and training opportunities and jobs around the world.

In September the YSN was involved in the IV International Training Course in Topography for Young Surveyors held in Madrid, Spain. This two-week annual course covers all things related to surveying including traditional surveying techniques, GIS, photogrammetry/remote sensing and laser scanning using the latest in technology. The course is taught in English. Fifty young surveyors are invited to attend and participate. The only cost is the airfare to the venue. All other costs (accommodations, meals, training, etc.) are covered. Details about the 2012 program can be found at www.fig.net/news/news_2012/training_course_topography.htm. In 2012 the 50 young surveyors came from 17 different countries. In 2013 it is anticipated that two American young surveyors will be invited to

attend and participate. A truly great opportunity!

The YSN is also involved in many worthwhile endeavors including the UN-Habitat/FIG Global Land Tool Network (GLTN) and Social Tenure Domain Model (STDM) and the FIG African Task Force where young surveyors can become involved and help make a difference in improving conditions in developing countries.

The YSN has a very active presence on Facebook (**FIG Young Surveyors**) and LinkedIn (**FIG Young Surveyors Network**) and you are invited and encouraged to join in with hundreds of young surveyors from around the world already participating.

The future of surveying is in your hands and the FIG Young Surveyors Network is a wonderful resource and tool to encourage and support your success. 🇺🇸

More information, including the latest YSN newsletter can be found at: www.fig.net/ys. For more information or questions the YSN email address is: fig.youngsurveyors@gmail.com.

In Memory of William A. Ralston, PLS

William A. Ralston of Independence, Mo. departed this life on October 3, 2012. Bill was born on Dec. 14, 1933, to Arthur and Laura Ralston. On March 8, 1952 Bill married his life time partner Betty Ralston. Bill was a veteran of the U.S. Navy. He traveled around the world three times. Bill has pastored the last 20 years at Praise Tabernacle Church of God. Bill enjoyed fishing, working on their house, bowling with family and friends, and playing with his two new cats. Bill loved his wife, family, and friends and will be sorely missed!

He is survived by his wife, Betty Ralston, son and daughter-in-law Rick and Carolyn Ralston, grandchildren, Angela Ralston-Pelster, Stephanie Williams, Tiffany Ralston, Andrea Ralston, Travis Styron, great-grandchildren, Morgan Peister, Alex and Aron Greer, Ryan Williams, Camryn and Mavrick Miller, Leila Kirsch.

Services were held on Monday, October 8, 2012 at Praise Tabernacle Church of God.

February 20, 2013 Board Meeting and Capitol Visitation

Jefferson City, MO

May 9-11, 2013 Board Meeting and Spring Workshop

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MO Colleges/Universities Where Land Surveying Coursework is Available

The following list will be updated quarterly as new information becomes available.

Longview Community College — Lee's Summit, Missouri

Contact: David Gann, PLS, Program Coordinator/Instructor —
Land Surveying MCC — Longview, MEP Division
Longview Community College
Science and Technology Bldg.
500 SW Longview Road
Lee's Summit, Missouri 64081-2105
816-672-2336; Fax 816-672-2034; Cell 816-803-9179

Florissant Community College — St. Louis, Missouri

Contact: Ashok Agrawal
Florissant Community College
3400 Pershall Road
St. Louis, Missouri 63135
314-595-4535

Missouri State University — Springfield, Missouri

Contact: Thomas G. Plymate
Southwest Missouri State University
901 So. National
Springfield, Missouri 65804-0089
417-836-5800

Mineral Area College — Flat River, Missouri

Contact: Jim Hrouda
Mineral Area College
P.O. Box 1000
Park Hills, Missouri 63601
573-431-4593, ext. 309

Missouri Western State University — St. Joseph, Missouri

Contact: Department of Engineering Technology
Missouri Western State University
Wilson Hall 193
4525 Downs Drive
St. Joseph, MO 64507
816-271-5820
www.missouriwestern.edu/EngTech/

St. Louis Community College at Florissant Valley

Contact: Norman R. Brown
St. Louis Community College at Florissant Valley
3400 Pershall Road
St. Louis, Missouri 63135-1499
314-595-4306

Three Rivers Community College — Poplar Bluff, Missouri

Contact: Larry Kimbrow, Associate Dean
Ron Rains, Faculty
Three Rivers Community College
2080 Three Rivers Blvd.
Poplar Bluff, Missouri 63901
573-840-9689 or -9683
877-TRY-TRCC (toll free)

Missouri University of Science and Technology — Rolla, Missouri

Contact: Dr. Richard L. Elgin, PLS, PE
Adjunct Professor
Department of Civil Engineering
1401 North Pine Street
211 Butler-Carlton Hall
Rolla, Missouri 65409-0030
573-364-6362
elgin@mst.edu

University of Missouri-Columbia, Missouri

Contact: Lois Tolson
University of Missouri-Columbia
W1025 Engineering Bldg. East
Columbia, Missouri 65211
573-882-4377

Missouri Southern State College — Joplin, Missouri

Contact: Dr. Tia Strait
School of Technology
3950 E. Newman Rd.
Joplin, MO 64801-1595
1-800-606-MSSC or 1-417-782-MSSC



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Edward Owen
Vice President

GLO Surveys of Town and Village Lots

by Steven E. Weible, PLS, April 2012

Since the late 1600s the French had claimed a vast territory in North America extending from the Appalachian Mountains on the East to the Rocky Mountains on the West and from the Gulf of Mexico north into Canada. As a result of the French and Indian War, however, the French relinquished this vast territory of Louisiana to Great Britain and Spain in 1763. Great Britain took possession of that portion lying East of the Mississippi River, while Spain took possession of that portion to the West.

From 1763 Spain controlled the development of the territory that would later become the State of Missouri. Lands were granted to settlers and towns were developed during this period, while the fledgling United States divested Great Britain of its holdings in North America and Napoleon Bonaparte rose to power in France. Napoleon persuaded Spain to return Louisiana and, as a result, on October 1, 1800 by the Treaty of San Ildefonso, the Louisiana territory west of the Mississippi River was retroceded to France.

Upon learning of the transfer to France, the United States took steps to negotiate for the acquisition of New Orleans to ensure the passage of trade through that corridor. As circumstances would have it, Napoleon offered up the whole of the Louisiana territory and a treaty was concluded on April 30, 1803, providing for the acquisition that we know today as the Louisiana Purchase.

France formally took possession of the Louisiana territory on December 20, 1803 and then formally turned it over to the United States on March 10, 1804.

Having taken possession of Louisiana, the United States was eager to offer lands for sale in order to raise money for the support of the government. Before that could be done, though, claims to land that had been granted by the Spanish and the French had to be addressed. The Act of March 2, 1805, chapter 26, (U. S. Statutes at Large, Volume 2, page 324) provided for the appointment of commissioners to examine and decide upon the validity of these claims.

At the conclusion of the proceedings this first Board of Commissioners presented a report to the United States House of Representatives on April 22, 1812, in which they characterized the claims in the Territory of Louisiana that had been brought before them (American State Papers, Public Lands, Volume 2, page 377, No. 200). The claims were segregated into various classes, one of which was town and village lots, out lots and common field lots that had been inhabited, possessed and

cultivated prior to December 20, 1803, the date on which France formally took possession of the Louisiana territory. It was estimated by the Board that villages, commons and common fields comprised about one fourth of all of the claims examined. The Board of Commissioners, therefore, recommended that it would be best to make a general confirmation of these towns to the inhabitants and to grant the unclaimed lots to the towns for the support of public schools.

Congress, apparently, saw wisdom in the recommendation of the Board of Commissioners and passed the Act of June 13, 1812, chapter 99 (U. S. Statutes at Large, Volume 2, page 748). This act confirmed those claims to town or village lots, out lots, common field lots and commons, which had been inhabited, cultivated or possessed prior to December 20, 1803. The towns and villages to which the act pertained were: Portage des Sioux, St. Charles, St. Louis, St. Ferdinand (present City of Florissant), Village à Robert (present location of Bridgeton), Carondelet, Ste. Genevieve, New Bourbon, New Madrid and Little Prairie. In each of these towns or villages the principal deputy surveyor was directed to survey and mark the out boundary lines and to prepare plats of the surveys. Those tracts lying within the limits of the towns surveyed, which were not claimed by any individual or the inhabitants in general, were reserved for the support of schools in the town or village in which they were located. The total amount of lands reserved for the support of schools could not exceed 1/20 of the total area enclosed by the general survey of the town or village.

Although this act confirmed the claims to town and village lots, out lots and common field lots, it did not make provision for the survey of the individual claims, only the out boundary was to be surveyed. As a result of this deficiency, Congress passed the supplementary Act of May 26, 1824, chapter 184 (U. S. Statutes at Large, Volume 4, page 65), requiring those claiming town or village lots, out lots and common field lots under the Act of June 13, 1812, chapter 99, to file their claim with the recorder of land titles within eighteen months after the passage of the Act to enable the surveyor general to distinguish the claimed lots from the unclaimed lots. Each claimant was to designate the boundaries and extent of their claim and prove inhabitation, cultivation or possession prior to December 20, 1803. It also extended the Act of June 13, 1812, chapter 99, to include the town of Mine à Burton (present City of Potosi).

(continued on next page)

GLO Surveys of Town and Village Lots *(continued)*

As the word reached the towns and villages about the requirements of the Act, claimants began to make their way to St. Louis to file their claims with Theodore Hunt, the recorder of land titles. The first claim was filed on February 13, 1825 by Louis Lemonde for a lot in the City of St. Louis.

A conceptual map depicting the general layout of each town or village was prepared with numbered blocks and identified streets so that each claimant could identify the location of his claim. The claimant then had to identify the bounds of the tract claimed and provide a witness to testify that the requirements of the confirming Act had been met. This information was recorded by the recorder of land titles in a minute book and the name of each claimant was successively added to a numbered list, which came to be known as "Hunt's List of Proofs" or, simply, "Hunt's List."

The following is the "proof" of a claim made by William Clark for a tract located in the Town of Saint Louis and recorded in Minute Book 2 at page 32:

William Clark deriving title from Auguste Chouteau claims a lot in the Town of Saint Louis being part of square No. 12 containing one hundred and twenty feet in front by one hundred and fifty in depth; bounded East by Front Street, which separates it from the Mississippi; North by North E Street; West by Main Street and South by balance of same square.

Copy of deed from Chouteau to Clark left in this office. Alexander Bellesime being duly sworn says he knows the lot claimed and that upwards of twenty three years ago this Lot was owned and occupied by Auguste Chouteau who owned and occupied the same until he sold this lot to William Clark who has occupied it ever since.

Alexander (his X mark) Bellesime

sworn to before me
June 15, 1825

Theodore Hunt, Recorder of Land Titles

In order to relinquish to the inhabitants of the several towns and villages all right, title and interest of the United States to the town or village lots, out lots, common field lots and commons of the respective towns or villages that were confirmed by the Act of June 13, 1812, chapter 99, Congress passed the Act of January 27, 1831, chapter 12 (U. S. Statutes at Large, Volume 4, page 435). It also relinquished all right, title and interest of the United States to those unclaimed tracts within the respective towns or villages that were reserved for the support of schools.

The required surveys were begun when, in September of 1835, Surveyor of the public lands in Illinois and Missouri, Elias T. Langham, entered into a contract with Joseph C. Brown to survey the town lots, out lots and common fields of Saint Louis (MoDNR microfiche location: 720/3303A04). Brown was to deliver his field notes and a separate plat of each lot and block, showing the proper connection with the adjoining and adjacent lots and blocks. In return Brown was to be compensated at the rate of six dollars per day, from the time he commenced work until the surveys and returns were completed.

In the record book that Joseph C. Brown prepared for the surveys in St. Louis, he describes the field procedures used for surveying town and village lots (pages 339 and 340, MoDNR microfiche location: 724/0053A01): "I have surveyed the lines of the streets with the theodolite and have measured the streets in all cases with 2 poles, each 20 english feet long, moving them alternately & putting their ends just in contact. Where obstructions have existed I have determined the lines by calculation and that has been very often except on the streets, where I have always measured. In surveying the blocks, local references as witnesses are given and such I have deemed entirely sufficient for the lots in the respective blocks and more truly to be depended upon than any that could be given for individual lots. The course of the lines are not so correctly given as are the measures. I have used a compass in taking the courses, and on intermediate lines which the measures on the different sides show to be not parallel I have calculated the courses. At the commencement of the work I gave notice thereof in all the papers there published in the City requesting information from the owners of lots that might enable me to survey them correctly, but the call was but little attended to. I have lost much time in endeavoring to obtain information as to the location of lots, but after all there are many lots of which I cannot learn the situation and that are not embraced in the foregoing work, and some that are so far located as to name the block are yet indefinite as to what part of the block. Many lots have been long occupied on the ground of which I cannot learn anything from the documents in my possession ... in certain cases the plat and descriptions of the survey of the lot does not agree in form and size to the grant of said lot, or to the claim and proof thereof before the recorder of land titles. These irregularities were imposed on me by the possessions on the ground, which possessions I considered as guaranteed by the law of Confirmation of town and village lots."

(continued on next page)

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GLO Surveys of Town and Village Lots (continued)

A comparative statement of the land measures of the United States and French measures formerly used in the late province of Louisiana (American State Papers, Public Lands, Volume 4, page 19, No. 423).

Lineal measure

72 French feet = 77 English (U.S.) feet
6 French perches = 7 English (U.S.) poles = 1.75 chains
10 French perches = 1 lineal French Arpent
12 lineal French Arpents = 35 chains

Superficial measure (area)

288 Arpents = 245 acres
1 League square = 7056 Arpents = 6002.50 acres

In the record of surveys in Ste. Genevieve and New Bourbon (page 279, MoDNR microfiche location: 724/0474A01), Mr. Brown goes on to describe the relationship of the conceptual maps with the actual facts on the ground:

“The other parts of the town of Ste. Genevieve which are not embraced by the blocks of the town already described by the foregoing numbers thereof from No. 1 to No. 30 are so different on the ground from the sketches (designed therefor) furnished me from the Surveyor General’s office, as will appear by my connected map of the surveys thereof, that I shall no further attempt a description of blocks or streets according to those sketches but will describe the several individual lots as I have surveyed them aided by those sketches and by satisfactory information given me on the ground of the metes and bounds of the several lots by persons knowing the same.”

In the record book of Brown’s Surveys in and near St. Charles (page 24, MoDNR microfiche location: 724/0319A02), Mr. Brown describes how town and village lot corners were monumented:

“In all cases in setting stones for corners to town lots or blocks where precision is required I have had the stone set on the lot (not in the street) and so that a corner of the stone shall mark the exact corner of the lot or block, to wit at the NE corner of a lot or block the NE corner of the stone as set is the corner, at the SE the SE corner of the stone and in like manner at the other corners. Where a stone is set as common corner to two lots it is set so as to be on the line between the lots with the middle point of the outer edge of the stone at the corner and when common corner to more than two lots, the middle point on the stone is intended to be the place of corner.”

Once the surveys for a town or village were completed, a drawing and description of each lot was set down in a record book for that particular town or village. At some later date, the Surveyor General, or a clerk in his office, assigned a number to each lot according to the order in which it appeared in the record book. Each town or village was numbered separately so that each constitutes its own series, except that Sainte Genevieve and New Bourbon were surveyed as one series. It is necessary, therefore, to make a distinction as to which series the survey belongs. As an example, Survey #1 in the City of Saint Louis would be referred to as “Survey #1 of the Saint Louis Series”. Survey #1 in the City of Sainte Genevieve would be referred to as “Survey #1 of the Sainte Genevieve and New Bourbon Series.”

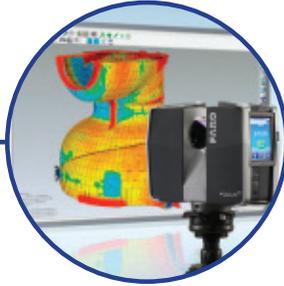
It is important to note that those private claims that are typically referred to as “U. S. Surveys” actually constitute a series separate from the surveys of town and village lots. These include the claims approved by the first and second boards of commissioners, New Madrid claims and claims approved by other acts of Congress. The General Land Office referred to these surveys as belonging to the “General Series.” Since a survey in any series may be referred to as a “U. S. Survey,” it is entirely possible that more than one “U. S. Survey” of the same number, but of a different series, could occur within the same township or general locality. For instance, in Township 38 North, Range 9 East at Sainte Genevieve, both the General Series and the Ste. Genevieve and New Bourbon Series have Surveys numbered 96, 146 and 253. Town and village lot surveys are often intermingled with and adjoining surveys of the General Series, so it is important to recognize the different series and identify them appropriately. 🇺🇸

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Dear Members of MSPS,

Your museum is ready to blast into an orbit of financial security that allows us to continue preserving the legacy of surveying while ensuring its future. Due to your support and encouragement through the years, the museum has become a nationally-recognized learning center and tourist attraction educating the public about the importance of land surveying and the rich connections between surveying and our nation's heritage.

The mission of the ALNMoS is "to preserve surveying's legacy, to ensure surveying's future." Every day the museum embodies and exemplifies this mission. Through revenue generated from rent, memberships and donations, the museum has been able to meet its monthly obligations - outside of the mortgage. The museum's next goal is to pay off the mortgage.

The museum is asking you to help us continue our success and realize our new goal by participating in the Reaching Our Orbit Capital Campaign. This campaign is dedicated to paying off the mortgage through pledges from surveyors around the country and other supporters outside of the surveying community.

All 2012 donations and pledges up to \$200,000 will be matched dollar for dollar by a donor. All campaign contributions made by the end of 2012 will go into an escrow account earmarked exclusively for paying down the mortgage. If our goal is not reached, all funds from this account will be returned.

At the NSPS Spring Meeting, ALNMoS Trustee Bob Church introduced a resolution detailing the Reaching Our Orbit Capital Campaign. The resolution asks associations with more than 500 members to pledge \$2,500 for three to five years and those with less than 500 members to pledge \$1,000 for three to five years. The resolution is endorsed by our National Co-chairs, Curt Sumner, NSPS Executive Director and John Matonich, NSPS Government Relations Chair.

By making a pledge, the museum envisions three things coming out of your support:

1. By passing the resolution, we hope your members follow your lead. Individual surveyors making small donations equal large results. If every surveyor donated twenty dollars in 2013, the museum can pay off its entire mortgage. The association can set the tone by soliciting donations from members as you see fit.
2. With the support of the associations and surveyors, corporate donors will be more attracted to support the museum. Suppliers, manufacturers and software companies require a national interaction between surveyors and the museum before they commit. We can't do this alone. We need your help in contacting potential corporate donors.
3. With your support and hopefully a big donor or two, the museum will have enough capital and a strong enough budget to apply for grants. With the required matching capital, the museum can get grants that will help us further educate the public about surveying.

In the end, I do not think I am overstating anything by saying this might be the last chance to have a national museum. The bank, which has worked closely with us since we opened, has now reached a point where they need to recoup their investment. Without a substantial financial commitment from the museum, raised through this campaign, the bank will have to take another course of action regarding the future of the museum.

You will find a list of all the activities, programs, and accomplishments of the last two years, made possible in large part because of donations like yours. You will find testimonials praising the museum's educational impact. We are confident you will see why the museum has become known as the hidden treasure.

Visitors from around the country, in fact around the world, have fallen in love with the museum and have gained a deep appreciation of the profession. We are asking surveyors to help us blast into orbit and keep this treasure alive by filling out the enclosed pledge form and returning it to the museum.

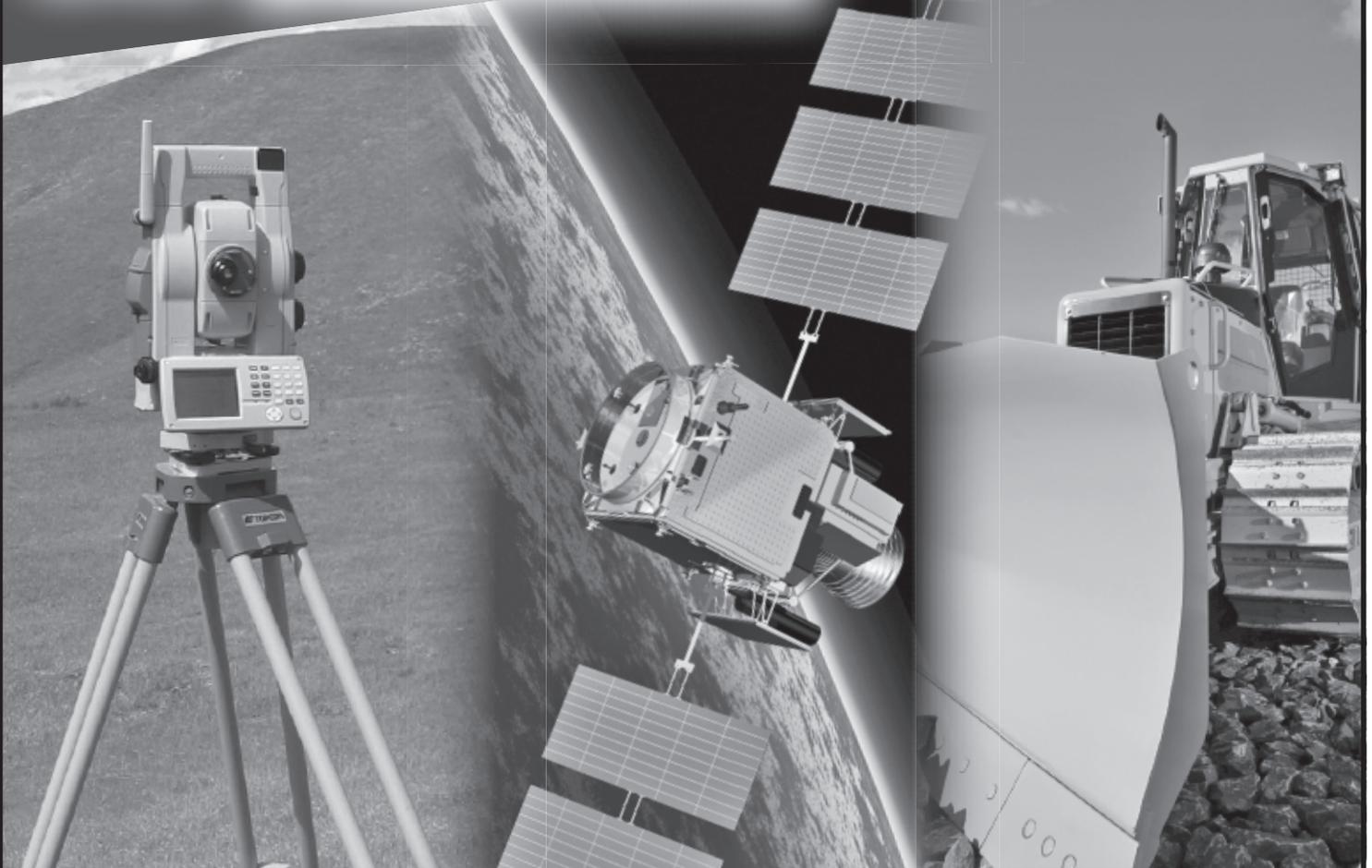
Thank you for your support,

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2012 MSPS Awards presented during Annual Meeting

Surveyor of the Year Award presented to Chris Wickern.

The Surveyor of the Year award is an award given annually to a member of MSPS for giving their time and effort to the profession and working within the society on behalf of the profession.

Without a doubt this year's recipient has done exactly that... He is the most published Missouri Surveyor in recent Missouri Surveyor newsletters. He has also had articles published in several national publications as well as Land Title News published by ALTA. He has been a speaker on the subject of surveying before other professions and service organizations. He has been dedicated to bringing news of the profession to future surveyors through his involvement with Boy Scouts, the Missouri State Fair, and public speaking events. He has also been an active member of the Legislative committee, Awards Committee, Newsletter staff, Public Relations Committee where he is the chairman of the State Fair Sub-Committee and co-chairman of the Standards Committee.

He discovered surveying at Ft. Sill Oklahoma and was an instructor at the Field Artillery Surveyors Course. He also served as an Instrument Man, Chainman, Party Chief, Instructor, Battalion Chief Surveyor, and Brigade Chief Surveyor at Ft. Sill and in Korea. As a civilian, he had the opportunity to learn Boundary Surveying in Springfield MO. He has served as the Chief Surveyor for the Kansas City District of the US Army Corps of Engineers. He was a registered land surveyor in Arizona where he taught surveying at Cochise County Community College. He is also a certified federal surveyor. Here in Missouri he is definitely what we would call a professional surveyor.

Congratulations Chris!

Exemplary service and dedication; that is criteria for the **Robert E. Myers Service Award**. This year's recipient is worthy in so many ways; consider the following:

- More than 30 years of surveying experience focused on providing the robust hunting and fishing opportunities found in Missouri.
- A serious student of the complex disciplines of surveying and Missouri's first graduate of the University of Wyoming Land Survey Program.
- A surveying innovator within state government who sought and brought the best of surveying practices, technologies and partnerships to the Conservation Commission.
- A public servant who has brought scores of Missouri's talented private sector surveyors on-board as contractors for Conservation boundaries.
- An active member of our Society who always answers the call to serve including committee chairmanships, public outreach events and working our sales booth.

In bestowing this honor on our recipient we not only recognize him and his service. Honoring this gentleman is our paying tribute to the yeoman surveyor; the individual who hustles the hard, rough-and-tumble job of surveying into a long and accomplish career in this grand profession. You know the type; small town boy, takes up physical labor to support a family,

hooks-on to a survey party, learns from those who have done it before him, plugs away on the road and in the field for years. Then somewhere along the way he goes to school, takes a couple of test and gets a license. It's the kind of surveyor so many of us are; it's the kind of surveyor we are so proud of.



Our recipient is a son of rural Missouri that found his way into surveying as a young man. He then took his newly learned talents to the Missouri Department of Conservation where he began his legacy of building Missouri's pathway to nature. To the corners of Missouri and hundreds of places in between he traveled to ply the surveying arts and sciences. More than twenty years on the road, away from home, away from family he led the field surveying services for Missouri's wildplaces and wildlife. Along the way he learned the lore and practice of surveying from LS's like Paul Miller, Ken Hackman and Bob Heagler. As he traveled to the wetlands, waterways and ranges of our state he began packing his bags with more than his gear, he packed his own library of text books. From the road he enrolled in school and from the conservation outpost in Missouri he spent evenings in the study of surveying.

As he turned his focus towards attaining his license he joined this Society. He found more learning, more mentors, more fellowship. He commenced to return the favor of the help he received by dedicating himself and his time to helping MSPS. A faithful committee member, he soon answered the call of Chairing. He even took on the task of hauling around our sales inventory and selling our wares. Back at work he partnered

with many surveyors in protecting the boundary integrity of Missouri's hunting and fishing venues.

So in honor of his "exemplary service and dedication" the Missouri Society of Professional Surveyors now honors LS # 2006016630 of Vienna Missouri, **Mr. Rich Howard.**

Bart Korman receives Legislation Award.

From time to time the Awards Committee presents a Legislative Award to a person who has put in time and effort on behalf of MSPS. This year we felt that there was a person deserving of this award. This person graduated from the University of Missouri with a BS in Agricultural Systems Management and a BS in Agricultural Engineering. After graduation he worked as an engineer and surveyor and later earned a dual certification as a Professional Land Surveyor and Professional Engineer. In 2005 he was appointed Montgomery County Surveyor and was elected to the position again in 2008. In 2010 he was elected to the Missouri House of Representatives to serve the 99th district. He is a member of the Missouri Society of Professional Surveyors and for his time and effort on behalf of the society we would like to present the 2012 Legislative award to **Representative Bart Korman.** 🇺🇸



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Snapshots from the 2012 Annual Meeting in St. Louis





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**MEMORANDUM OF UNDERSTANDING (MOU)
BETWEEN THE
NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS, INC. (NSPS)
AND THE
MISSOURI SOCIETY OF PROFESSIONAL SURVEYORS**

**ARTICLE I
PURPOSE**

The purpose of the NSPS 100% State Affiliate Membership Program is to create an environment that will not only maintain but enhance our national influence by joining our memberships into a single unified organization that represents, as near as possible, 100% of the surveying profession.

A unified national organization would better serve the interests, objectives, and communication needs of its members, in helping to enhance the public image of the surveying profession. This stronger organization would also give its members a more powerful national voice in promoting and protecting our profession. This unity of purpose will also help to advance the sciences and the disciplines within the profession of surveying and mapping, encourage cooperation between the public and the private sectors, create an active public relations program and advance the protection of public welfare relative to surveying and mapping issues.

**ARTICLE II
BACKGROUND**

The NSPS Board of Governors and Board of Directors feel that the continued success and growth of our society and our profession requires a stronger relationship between the national and state societies. To that end, we desire to create a joint membership program that will attract state societies to join with NSPS to work together to enhance our profession while enjoying the benefits of membership.

Benefits of a substantially increased membership total for NSPS would include:
STRONGER INFLUENCE in dealing with federal and state legislators, agencies, and administrators.

GREATER RECOGNITION when operating among other national and international professional organizations.

INCREASED EFFICIENCY in building on past, present, and future initiatives to strengthen the surveying profession.

Thus at the May 5, 2012 NSPS Annual meeting, a motion from members of the NSPS Board of Governors, to create and implement a 100% Affiliate Membership Program was presented and approved by both the NSPS Board of Governors and Board of Directors.

**ARTICLE III
OBLIGATIONS AND RESPONSIBILITIES
OF THE STATE ASSOCIATION/SOCIETY**

- Furnish the NSPS, Inc. Secretary/Treasurer, at least sixty (60) days prior to the start of the State's membership year, a preliminary list of the names, addresses and e-mails, for all regular/licensed members whose legal residence is the same as that of the State Affiliate.
- Within one hundred and twenty (120) days from the start of the State Affiliate's membership year, the Affiliate shall provide NSPS a list of all regular/licensed members paid to date and the balance due for their membership fees.
- The state affiliate, after the first one hundred and twenty (120) days of the membership year, shall forward NSPS on a monthly basis the names and membership dues for all newly paid to date regular/licensed members.
- To provide a representative(s) to serve on the NSPS Board of Governors and Board of Directors .
- The State Society/Association will pay all of the expenses associated with the attendance of their representative to the NSPS Board of Governors and Board of Directors meetings.
- To publish the MOU once each year in a State Association/ Society publication.
- To furnish NSPS, Inc. with the names and addresses of their officers, directors, and NSPS Governor/Director after each election.
- To affirm the affiliation with NSPS, Inc. through the display of the NSPS, Inc. logo or other statements of affiliation on the State's stationery, website and publications.

**ARTICLE IV
ROLES AND RESPONSIBILITY OF NSPS**

- To provide leadership for the surveying & mapping community on a national level.
- To provide one voice for the surveying & mapping community on a national level.
- To provide a National Government Affairs Program and leadership on State and Regional Government Affairs issues.
- To provide coordination and promotion of surveying & mapping curriculums on a national level.
- To provide a liaison with other national and international geomatics and geospatial organizations.
- Provide for the distribution of significant information of new technology and innovations that support the furtherance of surveying & mapping science.
- Provide assistance to the affiliate in obtaining speakers and programs for conferences and workshops.
- Coordinate licensing concerns of a national interest with the affiliates and provide review of the NCEES Model Law.
- Promote the affiliates activities and programs through the NSPSWebsite and publications.

**ARTICLE V
ISSUES OF MUTUAL UNDERSTANDING**

- The two parties are two distinct and separate entities, that share a mutual interest in furthering the surveying & mapping profession.
- NSPS will act as the clearinghouse and spokesperson for the Affiliates on national issues.
- Each State Affiliate may opt out for all of their members having their personal information shared by NSPS with third parties by submitting a letter to the NSPS Secretary/Treasurer at the beginning of every membership year.
- The State Affiliate organization has the right and is expected to send a representative to all meetings of the Board of Directors

- Affiliates will participate in the annual NSPS lobby effort to include Lobby Day and will schedule meetings with their Congressional delegation.

**ARTICLE VI
COMPENSATION DETAILS**

- The affiliate will remit to NSPS an annual fee of \$40.00 for each Regular/Licensed Member whose legal residence is the same as that of the State Affiliate.
- All costs incurred by the Affiliate that are associated with collecting and disbursing the annual fee to NSPS shall be borne solely by the Affiliate.

**ARTICLE VII
MISCELLANEOUS DETAILS**

- Life and Retired State members upon agreement between NSPS and the State Affiliate may be omitted from the yearly Affiliate Regular/Licensed membership tally.
- Individual non Regular/Licensed, Life or Retired members etc. of the State Association are allowed to take part in the NSPS membership program on an optional basis, in their appropriate NSPS membership category. The affiliate will supply NSPS with a listing of the additional members.
- Student members of a State Affiliate's membership do not qualify for this program as NSPS has an existing membership category at a lower student membership rate.

**ARTICLE VIII
TERMS OF THE AGREEMENT**

- This MOU Agreement will become effective upon the first day after the signing of this Agreement by the authorized officers of both parties.
- This MOU Agreement shall remain in force until such time as either party ceases to exist as a legal entity within the state of their listed headquarters.
- The agreement may be terminated by either party upon a two-thirds vote by their governing Board and the delivery of a written notice of termination to the other party's listed headquarters within no less than ninety days prior to the commencement of a new membership year.

(continued on next page)

Memorandum of Understanding (continued)

- Upon receipt of a termination notice from either party, both parties will have a maximum of sixty days in which to complete all financial and legal obligations existing between them.
- Should a dispute arise between the parties as to the terms of this agreement and an amicable settlement cannot be reached by the two parties, both parties agree to submit the dispute to a dispute resolution procedure to be held within the state of the aggrieved party.

MISSOURI SOCIETY OF PROFESSIONAL SURVEYORS

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RTI Drafting & Design Student Alicia Kreter awarded the O. Dan Lashley Memorial Scholarship.

On October 2, 2012, Alicia Kreter was awarded the O. Dan Lashley Memorial Scholarship at Rolla Technical Institute (RTI) in Rolla. Presenting the scholarship to Alicia are selection committee members Darrell Pratte, PLS and J. Michael Flowers, PLS. Alicia is from Cuba, MO and will graduate from the Rolla Technical Institute Drafting & Design Program in May 2013.

The annual \$500 scholarship was commissioned by O. Dan Lashley, a long-time Department of Natural Resources surveyor and Rolla resident, specifically for an RTI Drafting & Design second year student interested in land surveying. Mr. Lashley had a love of surveying, educating young people about the profession, and encouraging them to consider a career as a Professional Land Surveyor. 🇺🇸



Pictured from left: Darrell Pratte, PLS, Alicia Kreter, J. Michael Flowers, PLS

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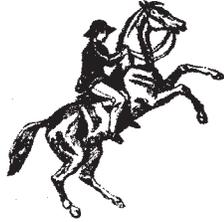
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The Surveyor Who survived a Major Earthquake

Reprinted from *Backsights*, V 31.1, Spring 2012

The strongest earthquakes ever to strike the center of a continent occurred in the United States, in southeast Missouri, in three successive months from December 1811 to February 1812. The culminating, massive shock of February 7, 1812 was felt 700 miles away, waking the President in the White House, and causing church bells to ring in Richmond, Virginia. At its epicenter, the residents of New Madrid, Missouri, felt the world was ending as entire forests shattered and the ground beneath them undulated in waves fifteen feet high. The Mississippi River went mad, running backwards as millions of tons of earth shifted her banks, and riverboat passengers were drowned. An estimated eight thousand square miles of Mississippi Valley landscape was altered.



Surveyor Louis Bringier of Louisiana was traveling on horseback, exploring the terrain near New Madrid when the massive quake occurred. His observations of the event were subsequently related in the *American Journal of Science and Arts*: “The violence of the earthquake having disturbed the earthy strata impending over the subterraneous cavities, existing probably in an extensive bed of wood, highly carbonized, occasioned the whole superior mass to settle. This, pressing with all its weight upon the water that had filled the, lower cavities, occasioned a displacement of this fluid, which forced its passage through, blowing up the earth with loud explosions. It rushed out in all quarters, bringing with it an enormous amount of carbonized wood, reduced mostly into dust, which was ejected to the height of from ten to fifteen~ feet, and fell in a black shower, mixed with the sand which its rapid motion had forced along; at the same time, the roaring and whistling produced, by the impetuosity of the air escaping from its confinement, seemed to increase the horrible disorder of the trees which every where encountered each other, being blown up, cracking and splitting, and falling by thousands at a time. In the meantime, the surface was sinking, and a black liquid was rising up to the belly of my horse, who’ stood motionless, struck with a panic of terror.

These occurrences occupied nearly two minutes; the trees, shaken in their foundation, kept falling here and there, and the whole surface of the country ‘remained covered with holes, which, to compare small things with the great, resembled so many craters of volcanoes, surrounded with a ring of carbonized Wood and sand, which rose to the height of about seven feet.”

Louis Bringier owned land in and around New Orleans, including forty thousand arpents (about 34,000 acres) granted by the Baron de Carondelet, Governor General of Louisiana,

in 1796. There is some difficulty in ascribing exact dates to Bringier’s term as Louisiana’s Surveyor General, but plats, created, signed, or certified by him range from 1803 to 1840. A land-claim case brought to court in 1824 called Bringier as a surveying expert, wherein the transcript reads, “L. Bringier, a witness, states that he has been a surveyor for upwards of thirty years, and for more than twenty-five years Surveyor General of the State of Louisiana, during, which period he has had the records of Spanish surveys in his charge, and had frequent occasion to refer to them, and survey lands in conformity to them; that he understands the. Spanish language.”

Bringier is also known to have drawn at least two successful town plans, those of Mandeville and Carrollton, Louisiana.

As an explorer, Bringier is credited as “the first, European to discover the Toltec Mounds” in Arkansas, on the same journey which took, him through New Madrid on that fateful day. But it is Bringier’s description of the 1812 earthquake which has kept his name alive in scientific journals to this day. 🇺🇸

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GIS and The Future of Surveying

by Dave Martin Horwood, BSc, O.L.S., and G. Brent Hall, PhD, MNZIS,
Reprinted from *Ontario Professional Surveyor*, Fall 2012

There has been a flurry of recent activity and discussion within the international surveying community around the future of the profession. These exchanges are really no different than similar discussions that have appeared occasionally over the last decade. In fact, the dialogue extends back even further, into the mid-1990s (see, for example, in the context of survey education, Frank (1995)). Despite the recognized need to find identity and place in a world of growing geospatial information complexity and ubiquity, there has been only minor progress toward charting a clear path for surveying and surveyors into the future. The need to make more progress on this front is now more urgent than in the past, and the urgency will accelerate rather than abate over the next ten to twenty years.

The surveying profession, more so than other professions, is feeling acutely the weight of the demographic shift of the baby boom generation as it passes from active participation in the workforce into retirement. In Canada, for example, by 2030 the population over the age of 65 will double, while, in contrast, the working age population (25-64) will increase by only 8%. Members leaving the survey profession are already outstripping the rate of new members entering from higher education, and unless specific steps are taken this problem will increase. In 2011 the number of 18-21 year old Canadians peaked, and will gradually decline until it rebounds by 2030. Through to 2024, the 52% of full-time higher education enrolments in the 18-21 age group (52% of total enrolments) will decline by approximately 10%, and all provinces and territories will experience a loss in potential demand for higher education. This reality is compounded by the fact that higher education surveying programs are struggling worldwide to attract new student enrolments, and the public perception of surveying is not so much that of a viable profession that supports multi-faceted professional activities but as that of a trade that is a necessary evil as part of the land development process. This perception is likely embodied in the perception of the surveying brand, which for well over a century served the profession admirably, as involving individuals, almost invariably males, using tripods and measurement instruments. However, this branding now is far less relevant and accurate as a portrayal of the overall work of a modern surveyor, most of which is now done back in the office as opposed to in the field. In the next twenty years, the surveying profession will be even more challenged to bolster member retirements due to generally declining tertiary enrolments of Canadian students, compounded by the challenges the profession faces in terms of its public image.

The article “Perspectives on the Future of Surveying” by A. Richard Vannozzi (2011) (<http://surveysummit.com/2011proceedings/files/perspectives-future-surveyingprofession.pdf>), articulates the view that the current scope of the surveying profession consists of three activities, namely boundary (cadastral) surveys, data accumulation surveys (e.g., topographic, LiDAR, photogrammetry, utilities)

and construction layout. In the latter two activities, surveyors have faced and are continuing to face increased competition from other related professions and trades. The so-called “sacred cow” of the survey profession, the cadastral survey, has also come under public scrutiny, where it is now not uncommon for potential clients to opt for more expedient products like title insurance in lieu of a survey. At the same time, government agencies are also assembling parcel maps in response to the need of more efficient forms of land administration, and these activities have the potential to replace some of the traditional uses of a cadastral survey.

Beyond the public arena, and as noted above, the general field of surveying, both as an area of higher education and as a professional activity undertaken by ‘land surveyors’, ‘hydrographic surveyors’ or, more generically, ‘survey professionals’, is also experiencing a problem with its brand. The label “geomatics” was enthusiastically adopted during the 1990s by the surveying profession worldwide, yet this term has no resonance with the public and is divorced from the well-known brand of land surveying, which is also not without its own challenges in terms of perception. Surveying programs in educational institutions throughout the world during the 1990s and into the 2000s undertook a rebranding and department names were replaced with labels such as geomatics and geomatics engineering. The word “geomatics” itself really just means “related to the earth”, and as such it is a rather nebulous distinction that has failed to resonate with students or with the public. Moreover, the word has also been adopted by the engineering profession, further diluting the surveying brand. More recently, tertiary institutes in Australia have opted to return to the “surveying” brand, as this more accurately articulates what surveyors do day-to-day in their work. In this context, the act of surveying is to observe critically and measure the real world and to form a professional opinion. In our view, this is where the brand and the profession both have their greatest investments not only in the past, but also in the future.

Whereas the surveying profession is experiencing, on the one hand, challenges in attracting new entrants and, on the other hand, a constricting market with increased competition, the geographic information systems (GIS) market has shown continued and accelerating growth. GIS, also known currently as Geospatial or Geographic Information Science, comprises the information systems and tools used to organize, manage and analyze objects based on location and relationship with other objects in the real world. The growth in GIS has been steady and continuously upward over the last 25 years, even through downturns in the global economy. With its focus on software and its applications across multiple domains, GIS has no problem attracting new practitioners and is beginning to become a critical part of all businesses information technology (IT) infrastructures

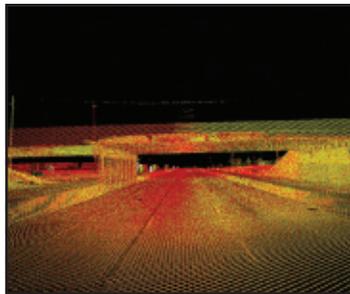
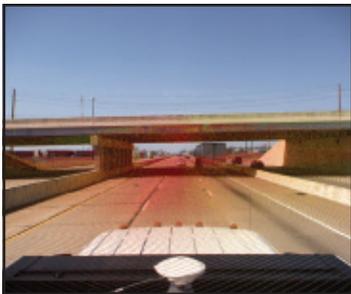
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GIS and The Future of Surveying (continued)

from local to national enterprises. Location information is now part of almost all information collected, including personal photographs.

Some surveying associations have seen this trend and have attempted to capitalize upon it by embracing not only GIS but the more broadly defined knowledge base and skills that are centred within the geospatial sciences. The Association of Ontario Land Surveyors (AOLS), for example, added in 2001 the Geographic Information Management (GIM) branch and currently has about 60 members with this designation. However, the AOLS is still struggling with articulating what this designation means, whether members with GIM credentials should be licensed, how a GIM relates to cadastral surveying, how the GIM value proposition can be best articulated to the large cadre of students exposed to GIS in higher education, or what benefits exist for current GIMs that will encourage them to renew their designation.

Surveying, Professionalism and GIS

Surveyors traditionally have been relied upon to provide accurate measurement to the exclusion of almost everything else that the profession provides above and beyond the trade (i.e. the value added by professional opinion to the trade of accurate measurement). However, by concentrating on measurement they may have abandoned to other professions and trades important aspects of the roles that the surveyor has traditionally held, ostensibly as the trusted land advisor. Up until the relatively recent Past, the surveyor was generally regarded as the director, guiding all stakeholders through the land development process. However, slowly at first, but much more rapidly recently, accurate measurement has essentially become commoditized, so much so that a minimally trained technician can, using modern instrumentation, faithfully measure and stake out survey grade locations.

Clearly, there is much more to the process of surveying than measurement. In fact, it is with this point of realization where the field of surveying becomes transformed from simply a task-based trade into the realm of professional activity practised by survey professionals. To perform the tasks required of him or her fully and with due diligence a surveyor not only measures the land or sea floor but must also research the legal record and other surveyor's opinions of the area being surveyed, visit the location to find evidence and recreate that legal record on the ground, and *form his or her own professional opinion as to the physical and conceptual extent Of title*. In all jurisdictions, a licensed surveyor is the only legally qualified professional who can form this opinion and is also held legally liable for the same.

Extending the activities of the professional surveyor into the broader context of the geospatial information sciences, the question of whether GIS itself also constitutes a profession is of central importance. There are both proponents and opponents to the view of GIS as a profession, or even as a discipline or field, nevertheless in the early 2000s, the Urban and Regional

Information Systems Association (URISA) consolidated yet earlier discussions and introduced a GIS Professional (GISP) certificate. The certificate, now managed by its own institute (<http://www.gisci.org/index.aspx>), has a five-year term and professional development requirements for renewal. There are approximately 5,000 members worldwide, however most of these members are registered and likely resident in the United States (US) (95%) and were grandfathered into the program for critical mass (80%). New certifications have definitely slowed since the end of the grandfathering period in 2009 (averaging 400 new certifications per year for the last three years). It remains to be seen whether there will be a large drop off in numbers once grandfathered members need to recertify, but based on current rates the membership will drop to 2,000 members by 2017. This represents less than 1% of the total estimated number of Geospatial Information Scientists and Technologists in the US in 2010 (210,000). There is a similar certification proposal put forward by the Canadian Institute of Geomatics (CIG), however this has had even less success, possibly because 195 of the GISP certifications are Canadian and at least two provincial survey associations have a GIS branch to their membership (Ontario and Saskatchewan).

As with any and all professional designations, there is a danger of falling into the credentialism trap where credentials become commonplace, littering business cards with long lists of designations. When credentials are multitudinous, ubiquitous and borne out of a need for identity and competition they lose their significance and credibility. Also, efforts to define the GIS 'profession' are analogous to earlier efforts to define the field of Computer Science as a profession. Very much like GIS, Computer Science has been trying to create a value proposition for a computer profession and regulatory body. Computer Science is a much larger more clearly demonstrable field than GIS and practitioners have been attempting to articulate the need for a computer profession for at least a decade longer than GIS practitioners with little success.

There are a number of other initiatives that seek to articulate the GIS body of knowledge, in particular the Geospatial Technology Competency Model (GTCM - <http://www.careeronestop.org/CompetencyModel/pyramid.aspx?GEO=Y>), in a way that realizes core competencies and skills that may be realized in workplace employment. This model attempts to articulate the competencies required to be a GIS *practitioner*. It divides industry-sector technical competencies into three areas, namely positioning and data acquisition, analysis and modeling and software, and application development. There is an unmentioned fourth area dealing with presentation and distribution. The field of Surveying clearly overlaps the first area and could partially overlap the second depending on the value added nature of the professional opinion. Despite these various initiatives, there is no overarching profession that encompasses all GIS activities. In this respect, perhaps GIS is more a way of looking at the world, or an expanded set of competencies that enhance existing professions than a profession in and of itself.

(continued on page 32)



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GIS and The Future of Surveying (continued)

To place this discussion within a framework that recognizes the role of all disciplinary or core competencies, including surveying, involved with land and its development, it is necessary to include a number of other professions or quasi-professions that play a role in the land development cycle. These include the professions of planning, architecture, engineering and surveying. Generally this cycle begins with a survey of the land to be developed. Conceptually, following this planners create a plan for the land, architects design the development, engineers oversee the construction and realization of the design and surveyors resurvey the land to reflect the new development. However, the process is cyclical, sometimes iterative between steps and all professions interface with each other during the transformation of undeveloped land into some form of human habitation and use. At the core of this framework, geospatial information science and GIS practitioners facilitate the integration of information at each of these steps and can help manage the transfer of information between other professions and professionals along the way (see Figure 1).

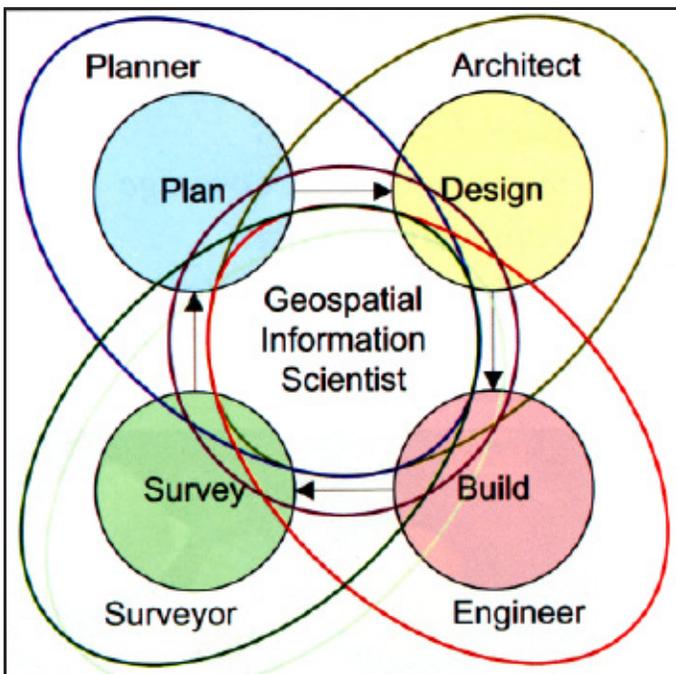


Figure 1: The Last Development and Management Process

In this conceptualization the geospatial information science domain overlaps all of the land development related professions. Each of the land development professions also have overlapping domains, for example, in Ontario, site drainage is a shared domain where architects, engineers and surveyors are all legally qualified to prepare a site drainage plan. However, we believe that relative to the professional 'orbits' revealed in Figure 1, the surveying profession should be particularly interested in where the domains of GIS and surveying intersect and that very clearly there is an important GIS part of surveying that

is not currently being addressed as adequately as it should be in current education programs for professional surveyors. We further feel that inclusion of this missing dimension in surveying curricula and recognizing it explicitly in professional surveying designations has the potential not only to broaden the dwindling ranks of professional surveyors, but also to provide professional credibility for GIS practitioners by embracing them more explicitly within the profession of surveying.

As part of the process of articulating the competencies of a GIM within the current AOLS designation, we have identified the following high level competencies for a geospatial information (GI) surveyor:

- Mathematics / Statistics
- Computer Science
- Introductory knowledge of survey methods / disciplines (cadastral, geodesy, hydrography, remote sensing - satellite, photogrammetry, LiDAR)
- In depth knowledge of GIS.

Given this premise we have analyzed a number of university surveying and GIS programs across Canada and one in New Zealand and scored them against the above proposed set of competencies, spread across courses in current undergraduate curricula. The resulting scores are still preliminary and need to be validated with the analyzed institutions. However, during this exercise we found that the survey programs matched quite well (80%) with the competencies, only missing in depth GIS and introductory computer science. The GIS programs on the other hand did not stand up as well (60%) and were missing a lot of positioning science as well as introductory boundary law and legal tenure courses. What is interesting from this exercise is that the concept of a GI surveyor with the proposed competencies has 80% of the educational requirements that would lead them to becoming a licensed cadastral surveyor.

Surveying associations and institutes, in dealing with an expanded profession, have in some cases taken a reductionist view. In Ontario, for example, noncadastral branches (GIS, geodesy, hydrography and photogrammetry) of surveying are given a "Certificate of Registration" like cadastral members, but not a licence. The Ontario Surveyors Act (1990) articulates the branches specifically, requiring a legislative change to change or add new branches. Engineering, on the other hand, uses an "ethics -based" approach to regulating the profession. All engineers are licensed and are governed by their own code of ethics and overseen by the regulatory body to ensure they are not practicing outside their domain of professional competence.

Resurrecting the Surveying Brand

Cumulatively, the above discussion and our general intuition suggests that surveying needs to expand its scope and re-establish the brand within this broader domain to encompass surveying-related parts of GIS. This path has been followed in Australia and is currently under discussion in New Zealand, and it should be

high on the agenda in the various constituencies across Canada. Surveying needs this rebranding to make the profession more attractive to potential new members in order both to grow the industry and to keep it vibrant during the challenging times that lie ahead. Students need to see a vast number of potential options in practicing surveying, well beyond the traditional realm of boundary retracement. We believe that Australia and New Zealand are following the correct path by distancing surveying from the “geomatics” label and resurrecting the “surveying” brand centred within the geospatial sciences. After all, surveying was the first profession in the US and George Washington, Thomas Jefferson and Abraham Lincoln were all land surveyors before entering politics. The Australian surveyors have coined the motto “life without limits” (<http://www.youtube.com/watch?v=I-QufqAeFyM>) for their marketing to students, which we feel resonates more with potential practitioners than the current mottos of the Professional Surveyors of Canada (<http://setyourboundaries.ca>) or the AOLS, which is particularly problematic as far as future sustainability is concerned (“ask me about geomatics”).

In his book, “The Mystery of Capital”, Hernando de Soto recounts his experience walking through the rice fields of Bali. Although there was no clear indication of where property boundaries I ever time he crossed from one farm to another a different dog barked. Listening to the barking dogs, a reasonable approximation of the property boundaries could be determined. Similarly, surveying associations and institutions need to heed the many barking dogs:

their own members, geospatial information scientists, students and the public to mint an expanded profession and relevant and sustaining brand and restore the surveyor to the role of a trusted land advisor. 🇩🇪

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Schultz and Summers Engineering	3287 Bagnell Dam Blvd.	Lake Ozark	MO	65049	573-365-2003	sjschultz@schultzandsummers.com
Shafer, Kline & Warren, Inc.	1700 Swift Ave., Ste. 100	N. Kansas City	MO	64116-3821	816-756-0444	graham@skw-inc.com
Shaffer & Hines, Inc.	PO Box 493	Nixa	MO	65714	417-725-4663	chines@shafferhines.com
Sprenkle & Associates Inc.	PO Box 286	Monett	MO	65708	417-236-0112	
St. Charles Engineering & Surveying, Inc.	801 S. Fifth St., Ste. 202	St. Charles	MO	63301	636-947-0607	
Taliaferro & Browne, Inc.	1020 E. 8th St.	Kansas City	MO	64106	816-283-3456	
The Sterling Company	5055 New Baumgartner Road	St. Louis	MO	63129	314-487-0440	ggower@sterling-eng-sur.com
Thouvenot, Wade & Moerchen, Inc.	720 Olive Street, Ste. 200A	St. Louis	MO	63101	314-241-6300	info@twm-inc.com
Tri-State Engineering, Inc.	702 S. Main St.	Joplin	MO	64802	417-781-0643	slett@tristate-engineering.com
Whitehead Consultants Inc.	114 N. Main St.	Clinton	MO	64735	660-885-8311	mtaylor@wcieng.com
Zahner & Associates, Inc.	26 N. Jackson St.	Perryville	MO	63775	573-547-1771	Zahner@zahnerinc.com

Missouri Society of Professional Surveyors

COMMITTEE PARTICIPATION ROSTER for 2013

WE NEED YOUR PARTICIPATION . If you would like to serve on one of the following committees, please fill out the information below and return to Sandra Boeckman, MSPS, PO Box 1342, Jefferson City, MO 65102 or fax 573-635-7823. **You must return this form (or call the MSPS office at 573-635-9446) to be added to or participate in any committee.**

Name: _____

Address: _____

City/State/Zip: _____

Phone: (w) _____ (c) _____

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