

The Interior Angle

August 2023



Original District of Columbia Boundary Stone

Inscribed "JURISDICTION of the UNITED STATES"

Located by the Cincinnati State team on Wednesday, March 29, 2023, as part of the monument hunt challenge of the 2023 Young Surveyor Network Student Competition

Kentucky Association of Professional Surveyors

Table of Contents

Historic Map of the Issue 6

From the President’s Desk..... 8

Editor’s Corner 11

Cincinnati State Land Surveying Capstone Project 2023..... 13

Getting to Know the Mapping of the Jackson Purchase..... 26

Cincinnati State Student’s Success 31

The Board of Licensure Report..... 36

Board of Licensure Enforcement Report..... 38

KAPS Board of Directors Meeting Minutes 43

Sometimes Included Monthly Puzzle..... 49

Interior Angle

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Historic Map of the Issue

Rossboro Plat of Owensboro Kentucky 1816

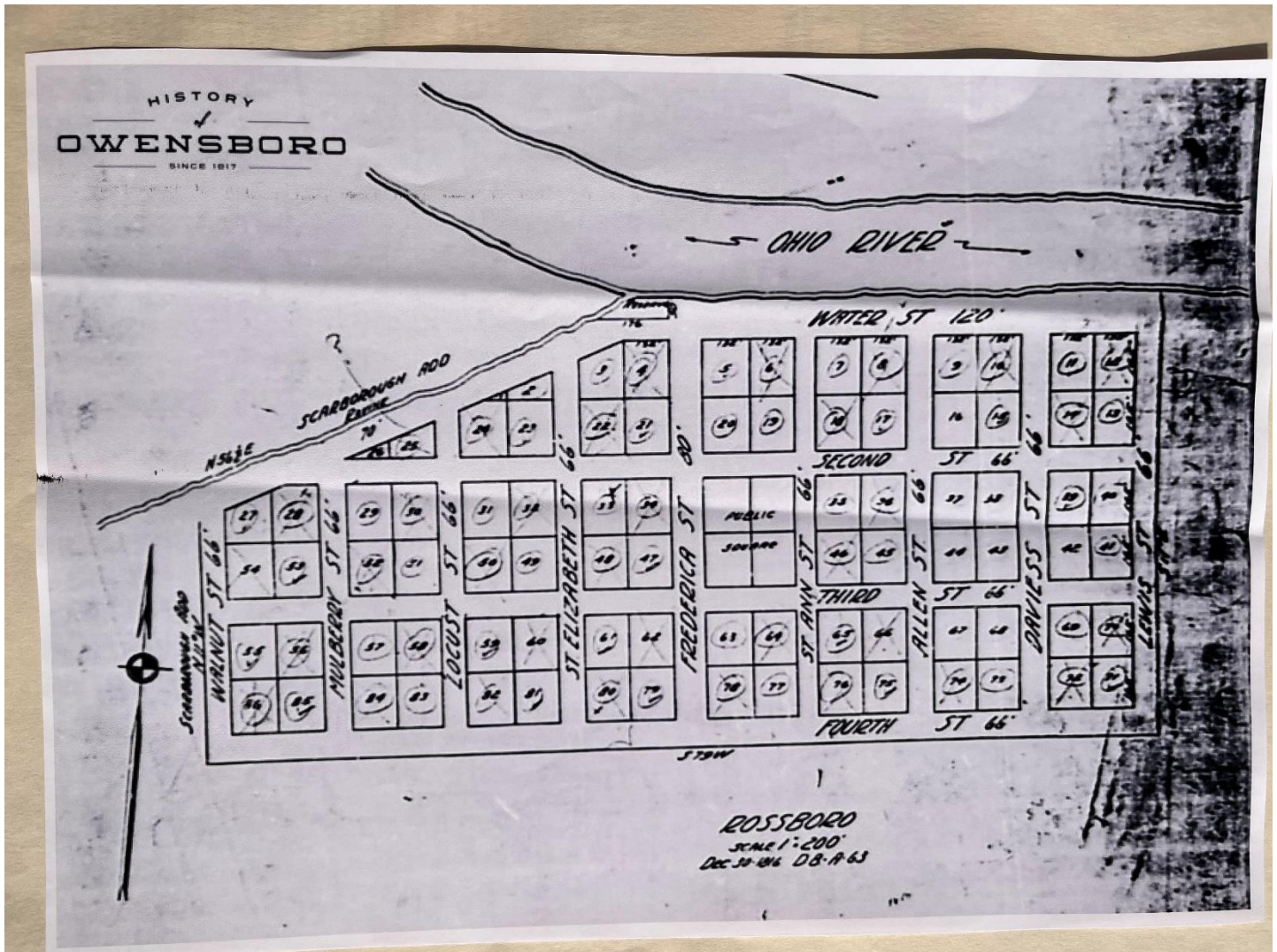


Photo By Jim Riney, PE, PLS

ROSSBORO PLAT – Platted in 1816

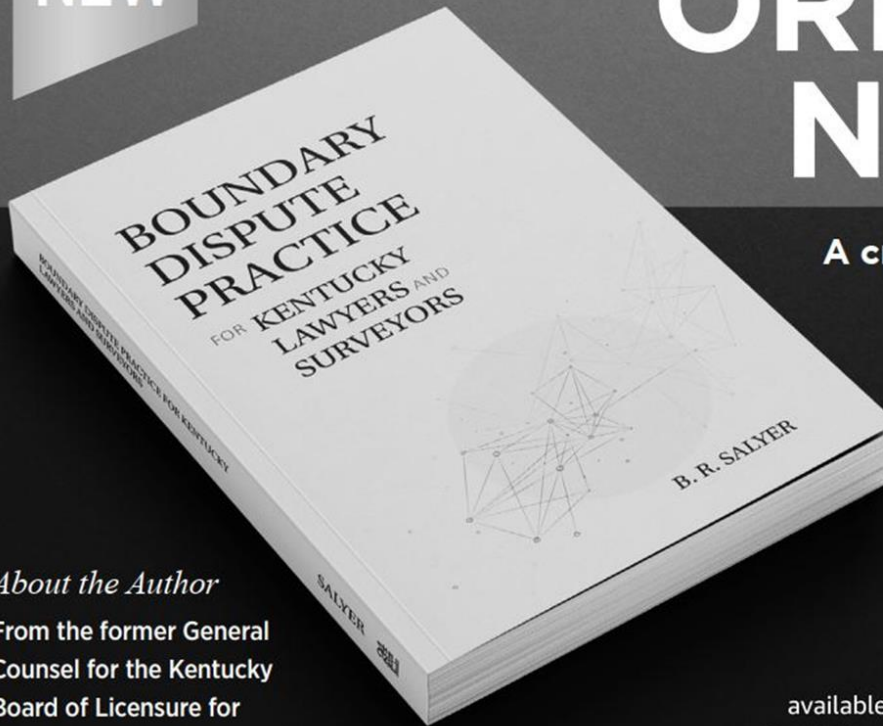
Recorded in Daviess County Clerk Office

Deed Book “A” Page “63”

“...The Executive Inn (“Big E”) was built across the former ravine that flowed into the Ohio River. Generally, the bulk of the Executive Inn ranged from Walnut Street on the west to Saint Elizabeth Street on the east and from 2nd Street to the Ohio River, of course.” Jim Riney, email 05/27/2023

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From the President's Desk...

By Bob Smith, PLS



Greetings fellow surveyors. I hope everyone is having a very productive summer, staying cool and working hard with some time off to kick back and enjoy family, friends, and life in general!

We had a great turnout this year for our annual Golf Scramble and Family Picnic. Twenty-five teams signed up to come out and play golf. The weather was perfect, lunch was great, and the drink cart was on KAPS. We also had 28 sponsors. About half were hole sponsors and the rest were contest sponsors and event sponsors. I would truly like to thank everyone that participated by getting teams signed up, reaching out to folks to sponsor, and helping on the course itself. Your help made the event run smoothly. We have already set aside our date for the event next year. It will be the same course on Friday, June 14th. I personally challenge everyone to sign up to play. I would love to see 30 teams next year. If you can't play, I challenge everyone to sponsor a hole, sponsor a contest or sponsor the event. All the proceeds from the Golf Scramble go directly to our Scholarship Fund to help our young surveyors offset the cost of their education. This is such a great event to not only help fund students but also to spend time networking with our peers, enjoying a great day off, and spending a day with friends for a great cause.

The Family Picnic was held directly after the Golf Scramble across the road from the course at the picnic shelter. We had another great turnout with lots of folks coming out. It was an awesome way to relax a bit and have fellowship with friends after a round of golf. Special thanks to our own Jon Payne and Greg Barker for setting up this event, supplying the food, grilling the hamburgers and hotdogs, and making sure no one left hungry. These two guys did a great job!

Our Annual Conference is quickly approaching. The dates are September 19 – 20 at the Center for Rural Development in Somerset, Kentucky. The conference committee has done a great job getting everything set up. It promises to be a great venue, classes, and food. This conference has been in the planning stages since a week after the 2022 conference and the committee has worked extremely hard planning down to the smallest detail to make everyone's experience a good one.

This will be my last “From the President’s Desk” and I would like to thank everyone for all their help and support. We have been through a number of challenges in the last couple of years and we have many more challenges ahead of this organization in the coming years. We need all members to jump on board and become involved. Our profession is one of the best if not the very best and we need to continue to support it and fight for it. Thank you all for the opportunity you have given me and God Bless.

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<https://www.kaps1.com/Conference>

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Editor's Corner

By Jon Payne, PLS (cpd@kaps1.com)



Whew, another issue prepared and out the door.

I would like to first say a huge THANK YOU to Carol Morman, James Decker, and the students of Cincinnati State for their article contributions in this and the past issue of The Interior Angle. Relaying the development of young surveyors was interesting to hear about and I appreciate the work the students are putting into their projects. It looks like there are going to be some very good additions to the profession soon.

Next, I have changed the format somewhat with this issue. The change provides automation to the development of the Table of Contents allowing for one click to update the headings and page numbers. While this may not sound like a huge matter, it is extremely helpful to me. If you have any preferences from the appearance of the earlier issues, please let me know what they were, and I will see what I can do to work them back in using the current format.

The ability to click on an article title in the Table of Contents and go directly to any article you are interested in is still available. That functionality was maintained although the appearance is a little different.

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Cincinnati State Land Surveying Capstone Project 2023

By Carol L. Morman, EdD, PE, PLS & James Decker, PS

In 2022, Big Bone Baptist Church (B3) and students from the Cincinnati State Technical and Community College Land Surveying program began a project to better understand and document the B3 church cemetery, which has existed at the site since the early 1840's. Members at the church have carried history of the church and cemetery forward for generations, and there is a renewed drive within the congregation to fully understand, manage, and preserve the cemetery, both for the history it contains, as well as to honor those buried there and to create a welcoming and peaceful environment for visiting family and friends of the deceased. The team of students - seniors in the surveying program conducting the work for the church as their Capstone project - worked to accomplish several goals: to perform a boundary retracement for the approximately 18 acre site owned by B3, to conduct a topographic survey of the oldest section of the cemetery, and to then make an inventory of the headstones on the site, for the purpose of providing general

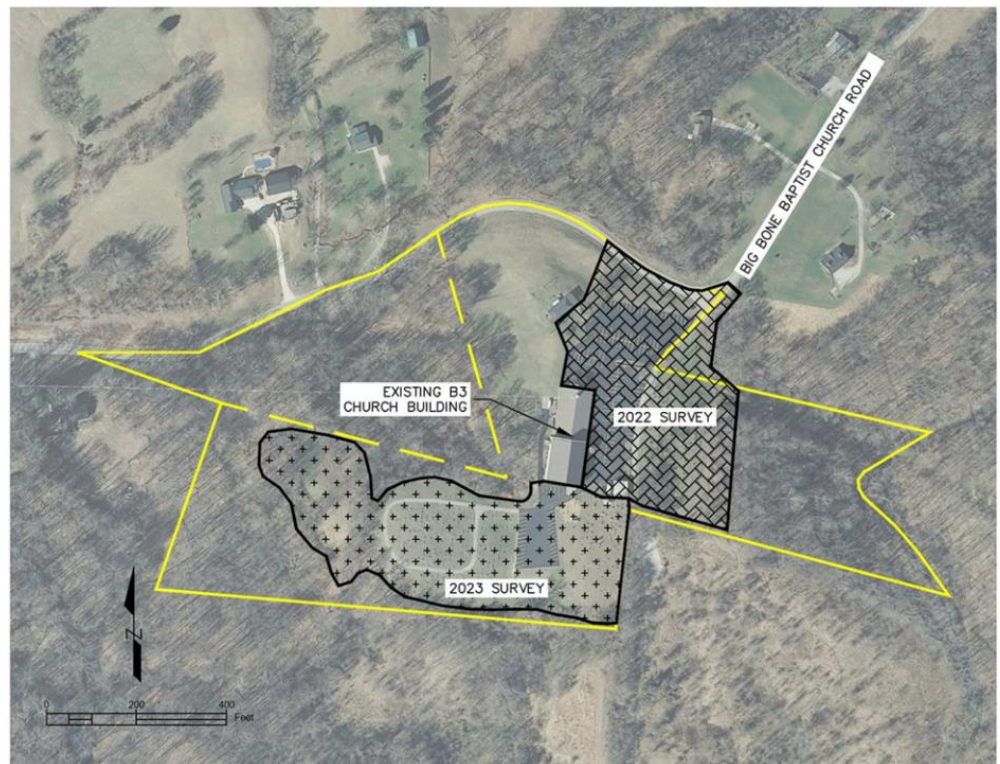


Cincinnati State Capstone Class, 2022, responsible for the first portion of the project at Big Bone Baptist Church. From left to right: Cincinnati State students Darrick Davidson, Macalister Keeley, Bryant Favors, Joseph Ernst, Levi Exline, Gunnar Seig, Jessica Lyttle, Shane Strotman. Not pictured: Jeff Kraus

location information of each stone and the person it memorializes, as well as to supplement existing records maintained by the church. At the culmination of the project, students presented their efforts and results to the church and other interested parties in the community. [[2022 Capstone Article](#) – See YouTube video of student presentation at the end of the linked news article].

In January of 2023, a second Capstone class from the Cincinnati State land surveying program returned to B3 to pick up where the class of 2022 left off and close the project out for the church. Goals this year were the same as before, including the boundary work to give this year’s class the chance to work through the metes and bounds descriptions and try to make sense of the records. The primary difference this year was the area of the site for the topographic survey;

whereas the previous class had focused on a several-acre portion of the cemetery across Gum Branch Road from the current church building, the class this year aimed to collect topographic information and all of the headstone/burial details in the area south of the church and west along the loop drive.



Project Location Map, Big Bone Baptist Church Cemetery, 11036 Big Bone Church Road, Union, KY 41091

The process was similar to last year but was conducted

completely independently of all work done previously. The first time the class met together was at Big Bone Baptist Church on the morning of January 20, 2023. Joined by Professors Jim Decker, P.S. and Carol Morman, EdD, P.E., P.S., of Cincinnati State, the Capstone class was introduced to the project site and specifics in a brief presentation compiled and given by Lisa Anglin,

herself a member at B3 and the point person for all of the work being done at the cemetery. She explained the reasons for the work - how due to a series of unfortunate circumstances, many of the original documents, notes, and records of the cemetery had been lost in a fire and went on to share about her knowledge of the people buried at the site (including her parents). Of particular interest, Anglin shared her belief that there were unmarked graves of enslaved people in several areas of the property. The class last year had their site scanned with ground penetrating radar (GPR) in an attempt to delineate those areas within their work site. This year's class would have the same in their portion of the site and would document any findings on the final plat. After the presentation and brief walk around the apparent boundary led by Prof. Decker (it was a breezy 34 degrees that day), the group began to lay out the weeks ahead and formulate a plan to meet their objectives.

In the second week, the class worked through the process of drafting a contract for the work to be done and reconvened at the Boone County Clerk's Office to begin the process of deed research. The church property itself consists of five tracts of land (and a potential sixth tract with unknown

ownership) with a right-of-way for Gum Branch Road bisecting the property. It currently shows as two parcels in the county GIS, which provided an excellent starting place for deed research, but students learned quickly that the neat linework of the GIS was far more nicely arranged than the tracts described in the deeds themselves. The process of drafting a working graphical abstract to represent the site and its adjoiners



Capstone students visited the Boone County Administrative Building in Burlington, KY in the early weeks of the project to perform deed research for use in creating a graphical abstract. The clerk's office maintains all of the recorded deeds, plats, and other instruments necessary for the conveyance of land in the county.

proved to be challenging and required several repeat visits to the clerk's office in search of more answers. In addition to the deed research, the class was fortunate enough to have Edwin Kirkpatrick, a seasoned professional land surveyor in Kentucky, who had himself performed a boundary retracement at the church property in 1991, come and speak to the work that he performed, the records he consulted, as well as his personal knowledge of surveying work in regional cemeteries throughout his extensive career.



Capstone students performed a three-wire level loop to bring vertical control up Big Bone Church Road to a monument at the church property.

Pictured: Micah McCain (Instrument), Noah Bonecutter (Notes)



Monument reconnaissance. Pictured left to right: Douglas Bennett, Clint Lutz, Will Zwick

Once a rough graphical abstract was assembled, students spent the next several weeks establishing control throughout the B3 property. The process began with a three-wire level loop, which ran a total distance of approximately 1.4 miles from a Northern Kentucky Control Network benchmark disc west down Big Bone Church Road, back up the road to a found iron pin at the front of the church property. The loop to the site

closed with a $\pm 0.05'$ error, which was acceptable for this project. While this loop was being performed, other students from the group, using the graphical abstract as a guide, searched for monuments along the church boundaries with a metal detector and shovel. Once the initial monument reconnaissance was completed, students began the process of laying out the traverse network for horizontal control through the site. In a bid to save time and, perhaps more importantly, provide everyone in the group with something to do, the traverse itself was run in two separate halves, with two groups beginning at the same



Two half traverse sections, beginning in the northeast corner of the site and meeting in the south center.

point, then proceeding in opposite directions around the site, working through traverse points until the two crews met again at a common point in the rear of the site.

In addition to the confusion this caused, one group was setting traverse points as they went, rather than having laid them out beforehand. The process of running the two half-traverses around the site was accomplished in one field day, but ended up costing more time in the long-run than a traditional

one-crew approach likely would have, as stitching those two halves back together for one complete loop to analyze and determine misclosure on took several weeks' effort. The process that proved successful consisted of exporting the raw field data to a field book file, which was then carefully edited in Microsoft Notepad to reverse one of the loops, resulting in two halves that traveled the same direction. Stations names in the raw data had to be edited to create one system of increasing numbers, as well, and azimuths recorded by the total stations used to turn the angles for the traverse were reversed through one half of the loop. Ultimately, using Trimble Business



Capstone students discuss the possible methods to merge data files together to create one complete traverse loop.

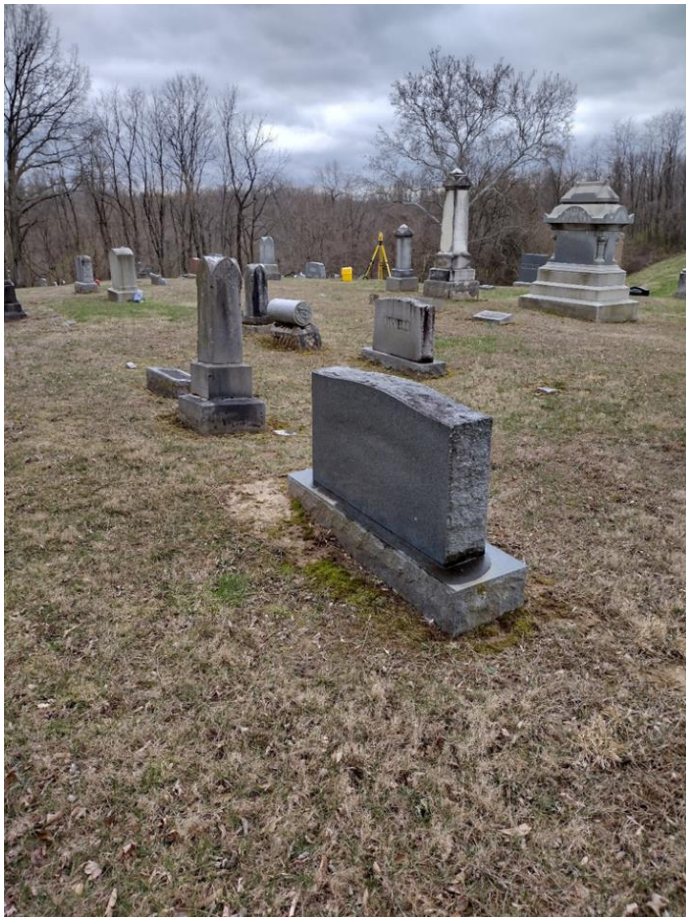
Pictured left to right: Professor Jim Decker, Clint Lutz, Alex Miller, Noah Bonecutter, Micah McCain

Center and Civil 3D, one complete traverse was assembled from the two halves actually collected.

Once the process of working through the traverse and computing misclosure was complete (misclosure obtained was 1:23728.61, which was acceptable for this rural Kentucky project), students returned to the cemetery to begin topographic data collection and come up with a method for documenting all headstones in this year's area of the site. A second three-wire loop was run (by different



Headstone topographic data collection. Pictured: Douglas Bennett



Topographic Surveying of headstones at Big Bone Baptist Church Cemetery 2023.

students than the first) to bring the leveled elevation from the front of the site to the back and the area to be topographically surveyed this year. A mis-recorded side shot led to the need to redo this second loop, and on the second attempt the obtained misclosure was .04', again, acceptable for the work being done. While two groups of students proceeded with data collection using Trimble S3 Robotic

Total Stations, the rest of the students flagged and labeled existing rows of headstones. Then began the task of handwriting notes documenting everything shown on each headstone, and assigning an alphanumeric name (for example, the first headstone of row 1 was to be documented as headstone 1A, then 1B, 1C, and so on) to each. Faced with rain and the overwhelming number of headstones to record, the initial handwriting approach was scrapped and replaced instead by students taking photos of each stone. Photos were then uploaded into a shared folder, and as time allowed, students would read and transcribe all listed information from the headstone photos into an Excel file.

Data points from the topographic surveying were brought into Civil 3D, and a surface of the 2023 project site was created, using manually created break lines to delineate tops of bank, toes of slope, edges of pavement, retaining walls, etc. Additional planimetric features such as fence lines, tree or woods lines, and parking lot striping were drawn into the file, but did not factor into the surface creation. The students also created description keys and a code list for data points collected in the field this project, as well as point groups in the drawing file, and those keys and point groups were used to populate symbols on the site plan. While this drawing was being compiled, other students in the class entered the headstone information into the Excel spreadsheet. In subsequent field days, a data point was collected at each headstone in the cemetery, with the topo point number appearing in the drawing file matching a column in the Excel table to link the two. As a final step, each photo taken of the headstones was renamed to match the data point number.

As the project deadline drew close, students were connected through Prof. Decker to adjunct professor Lydia Thacker, a retired professional land surveyor and an expert in GIS software. Familiar with the project, Thacker helped the students to create a QGIS database for all of the data and photos from the Capstone class. QGIS, free to download and use, and offering cross-platform as well as mobile capability, presented a unique opportunity for the data of the Capstone class to be displayed and given into the hands of Lisa Anglin and the Big Bone Baptist Church. As part of the final deliverable, a QGIS map, displaying interactive headstone symbols linked directly to the Excel spreadsheet and headstone photos, was compiled for transfer to the Big

Bone Baptist Church computer network. Thacker will work with Anglin and others at the church in the coming weeks to further explain the program and equip the church to be able to maintain and modify the cemetery dataset, so that moving forward, all pertinent records can be backed up and maintained in-house by the church, without need for an outside consultant or expensive record-keeping subscription service.



Capstone students observe the drone flight and photo capture, performed by Matt from Surveying and Mapping at the Big Bone Baptist Church Cemetery, April 14, 2023.

Pictured left to right: Tyler (SAM), Jim Elliott (SAM), Jim Decker (Professor, Cincinnati State), Alex Miller, Chance Moore, Matt (SAM - Drone), Noah Bonecutter (background), Micah McCain, Sean (SAM - Ground Penetrating Radar), Will Zwick

In the final weeks, as students tied up remaining field work and began writing up a report of the project and preparing for the final presentation, the Capstone class was joined by Surveying and Mapping (SAM) for a day of field exercises and demonstrations. Technicians and surveyors from SAM brought with them a GPR unit, a terrestrial scanner, and a drone system equipped for survey by photogrammetry. Each of these technologies is rapidly increasing in use

in the surveying industry, and the visit from SAM afforded the Capstone students a hands-on and first-person experience with some of what these systems are capable of. SAM was not there purely for “show-and-tell,” however; data collected during the demonstration was used as a check for and, in the case of the GPR unit, complement to the data acquired through more conventional methods by the Capstone students.

The 2023 Capstone project concluded on May 5 with a formal presentation of the project from start to finish for members of the church,

professors, and interested members of the public. Students prepared an hour-long walkthrough of the entire semester's efforts, as well as a final plat, a page displaying the acquired topographic information, and a reference sheet displaying the headstone data points as located. Additionally, a new legal description for the boundary as determined by this year's class was put together. The presentation, printed and digital materials, and a binder documenting all of the work will be kept as a record by the Cincinnati State land surveying program, and will be looked over by Tom Bushelman, a land surveyor registered in Kentucky who helped to connect Cincinnati State with B3. Bushelman plans to set monuments and record a new plat of survey for the entire church property, based on the work done by these two Capstone classes. The 2023 Capstone students were excited and honored to take part in this unique project, and are sincerely grateful to Big Bone Baptist Church, and particularly Lisa Anglin, for this opportunity to work through a real project from beginning to end, as they prepare to graduate and continue the process toward licensure as professional surveyors.



Capstone 2023 Class, final presentation. From left to right, Micah McCain, Will Zwick, Chance Moore, Clint Lutz, Douglas Bennett, Noah Bonecutter, Maximilian Paul, Alex Miller

This project was completed as part of the requirements of the Bachelor of Applied Science Degree in Land Surveying at Cincinnati State. The Surveying

Capstone course is one of the final courses that students in the program take to show their proficiency in land surveying before graduation.

Carol Morman, EDD, PE, PS is Program Chair and a Professor in Land Surveying at Cincinnati State. She is a licensed land surveyor in Ohio and Indiana and a licensed civil engineer in Ohio, Indiana, and Kentucky.

Jim Decker, PS is a Professor in Land Surveying at Cincinnati State. He is a licensed land surveyor in Ohio.

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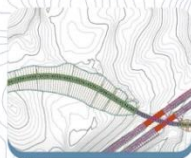
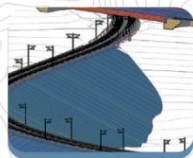
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Getting to Know the Mapping of the Jackson Purchase...

From the Secretary of State's website linking to a transcript of the 1820 legislation that authorized the mapping of the Jackson Purchase:

CHAPTER DLXIV

An ACT to provide for laying off the lands west of the Tennessee River into Townships and Sections.

Approved by the Kentucky General Assembly on February 14, 1820

SECTION 1. BE it enacted by the General Assembly of the Commonwealth of Kentucky, That there shall be appointed by a joint vote of both houses of the general assembly, some fit person as superintendent in surveying the lands situated west of the Tennessee River in this state.

SECTION 2. Be it further enacted, That the superintendent appointed as aforesaid, shall have full power to appoint one or more deputies, to enable him to perform the duties prescribed by this act.

SECTION 3. Be it further enacted, That the said superintendent and his deputies, before entering on the duties of their offices, shall take the oath prescribed by the constitution before some justice of the peace; a certificate of which oath shall be filed in the office of the secretary of state.

SECTION 4. Be it further enacted, That said superintendent shall lay off, and divide the land west of said river by north and south lines, running according to the true meridian, and by others crossing them at right angles, so as to form townships of six miles square, unless where the course of navigable rivers may render it impracticable, and in such case the rule shall be departed from no further than such particular circumstances may require. The corners of the townships shall be marked with progressive numbers, from the beginning, making the south east corner of each township the beginning corner, and where any tree, post or stone may be the corner of two or more townships, it shall be marked on each side facing the center of the townships to which it is a corner, with the letter T. and the number of the township, the center of which faces the side so marked. Each township shall be divided into sections, containing as nearly as may be, six hundred and forty acres each, by running through the same, five lines parallel to the east boundary lines of the townships, beginning at the distance of one mile from each other. In running the lines of townships, and said lines parallel to the township lines, trees,

posts or stones, half a mile from corners of sections, shall be marked as corners of quarter sections. The sections shall be numbered respectively, beginning with the number one, in the north east section of the township, and proceeding west and east alternately, through the townships, with progressive numbers until the thirty-sixth be completed. And it shall be the duty of said superintendent, to cause to be marked on a tree, post or stone, near each corner made as aforesaid, and within the section, the number of such section, and over it the number of the township in which such section may be; and the said superintendent shall cause to be made a general plat, exhibiting the situation of each township and section thereof, and shall cause to be made a field book describing the corner of each township and section, and the tree, stone or post marked within the corners of sections, with the number of the section and township, and also, the situation of mill seats, the crossing of water courses, and the quality of the soil. Said superintendent shall, also, cause to be described in his field book, the situation of all mines, salt springs or licks, and all remarkable places, and whether any person be residing on or within any section or township; also, report the quality of the land in each section and township and whether the same be first, second or third rate. The portional parts of townships shall be divided into sections, in the manner aforesaid, and the portions of sections when less than sixty acres, shall be annexed to, and sold with the adjacent portions or entire quarter sections at the option of the register of sales. The lines and corners of sections to be run as aforesaid, shall be plainly marked upon trees, stones or posts, the corners with three chops and the lines with two. All lines shall be measured with chains containing two perches of sixteen and one half feet each, which chain shall be adjusted by a standard to be kept for that purpose.

SECTION 5: Be it further enacted, That said superintendent shall cause four complete plats to be made out, each of which shall exhibit the townships and sections, and portions of townships and sections, as run and laid off according to the provisions of this act; and he shall deliver one of said plats to the register of the land office, one to the auditor of public accounts, one to the clerk of Livingston county and one to the clerk of Caldwell county. And the said register, auditor and clerks shall hang up said plats in some convenient part of their offices for public inspection. And said superintendent shall furnish the register of the land office with a copy of his field book for all lands laid off into townships and sections as aforesaid.

SECTION 6: Be it further enacted, That said superintendent shall receive for his services, in laying off the lands west of said river, into townships and sections as aforesaid, and for making out and furnishing said plats, and a copy of his field book as aforesaid, the sum of two dollars for each mile he necessarily runs, to be

ascertained by the auditor of public accounts, on the said superintendent returning a plat to his office as aforesaid, which allowance for services shall be drawn out of the Treasury upon the auditor's warrant in favor of said superintendent.

REF: "Acts of the Kentucky General Assembly," 1818, page 947.



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Cincinnati State Student's Success

By Max Paul (Photos by students in attendance)

For the second year in a row, Cincinnati State land surveying students traveled to Washington, D.C. in late March to see how they stacked up against similar teams of collegiate land surveying from across the country. The team this year consisted of a senior from Indiana, a sophomore and two freshmen from the Cincinnati area, all members of the Cincinnati State National Society of Professional Surveyors (NSPS) student chapter, as well as a faculty advisor from Kentucky.



Cincinnati State Technical & Community College, 2023 Young Surveyor Network Student Competition Team with Awards for 3rd Place Finish

From Left to Right: Chris Stanley (Freshman), Maximilian Paul (Senior), Lane Schulz (Freshman), Name Withheld per Student Request (Sophomore), Braden Diener (Freshman), Derrick Daily (Advisor)

The annual student competition is a three-day, land surveying competition hosted by the Young Surveyors Network (YSN), which is a subset of the NSPS and consists of young or new-to-the-profession land surveyors

from across the United States. The competition itself, including determination of and setup for the week's various events and challenges, is arranged by a committee from the YSN, this year led by Denver Winchester, P.S. of Oklahoma. The format of the event consists of a brief introduction dinner and orientation, followed by two full days of competition, and concluded with a closing luncheon and awards ceremony.

For the team from Cincinnati State, the first day of competition included a six-hour D.C.-wide survey monument hunt, joined by a YSN liaison responsible for documenting progress throughout the day, tracking start and end time, etc.



From left to right: Braden Diener, Chris Stanley, Maximilian Paul, and Lane Schulz search for a monument along the Southeast edge of the Tidal Basin, East of the Jefferson Memorial as part of the 2023 Young Surveyor Network, Student Competition



From Left to Right: Chris Stanley, Maximilian Paul, Braden Diener, Name Withheld Per Student Request, and Lane Schulz indicate a found survey benchmark on the East Steps of the Jefferson Memorial, Washington, DC, located as part of the

Using a mobile app-based map linked to the National Geodetic Survey's Benchmark Locator, the team navigated through the streets of D.C. by Metro, Bikes, Scooters, and on foot, charting a course from one monument to the next. Points were assigned to each monument included in the competition, and teams were required to take a photo showing all members present at each monument to score points. There were also bonus points available for

teams who uploaded those photos to their social media throughout the day. The monuments themselves consisted of everything from original boundary stones marking the limits of D.C. as laid out in the 1790's, to tops of flag poles and building turrets used to establish angles for survey on the streets below. Over the course of six hours, Cincinnati's team traveled approximately 30 miles locating and documenting a wide variety of surveying monumentation.

The following day, students rendezvoused at the base of the Washington Monument to perform three land surveying challenges. These challenges included conducting a three-wire level loop near the base of the monument, performing a triangulation exercise to determine coordinates of an unknown point, and working through a traverse laid out on the National Mall. While each of these tasks should be in the wheelhouse of any professional land surveyor, teams were made up of students, not experienced professionals, and were on their own to accomplish each task. In addition, the instruments used to perform these challenges were not the instruments most current land surveying programs are using in their classrooms and labs; in fact, many schools do not even have access to the historical



Left to Right: Maximilian Paul and Name Withheld Per Student Request use a Wild T-2 Theodolite to sight the top of the Washington Monument, as part of the Triangulation Challenge, Day 2 of the 2023 Young Surveyor Network, Student Competition

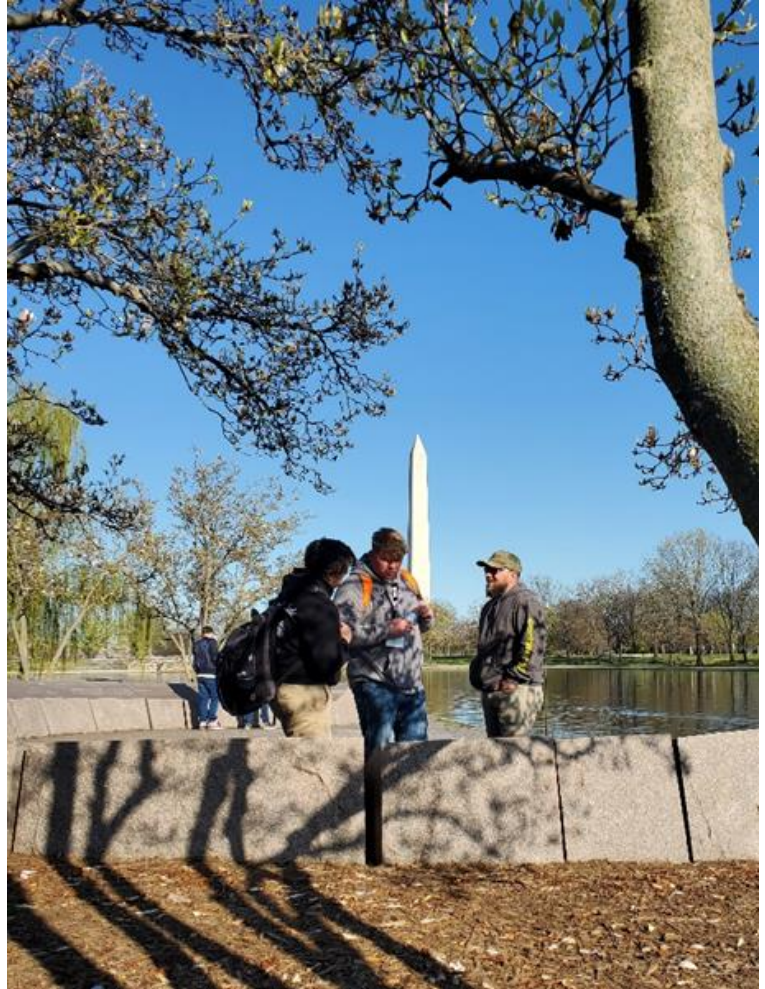
equipment that event organizers tracked down for use in the competition. Magnetic compasses, T-2 theodolites, and Gunter's chains were used, which presented both an exciting opportunity for students to grow in their

understanding and appreciation of historic surveying methods, as well as another layer of difficulty in performing the tasks required.

After two days of competition covering a variety of surveying challenges, the Cincinnati State team was rewarded for their efforts with a third-place finish overall, with teams from California Polytechnic and Ferris State claiming second and first, respectively.

While individual event scores and totals from team-to-team were not immediately available, the consensus among the Cincinnati students was that it was a job well done, but that there were also places where teams of future years could be better prepared.

The third-place finish meant Cincinnati's team returned to campus with a new trophy for the display case, as well as a \$500 cash prize, sponsored by survey equipment and software manufacturer Trimble, Inc. Of greater importance, though, are the confidence boost that such a performance gives members of the team, the reassurance that the Cincinnati program is effectively training tomorrow's land surveyors, and the shared experience of the students on the team, who will forever share the memory of such an exciting week. Scattered throughout the competition were important opportunities to network with other students and shake hands with the leaders in the surveying profession from across the country, too. The competition was a great excuse to get out to Washington D.C. and try some new things, and claiming a top-three finish is a



From Left to Right: Braden Diener, Lane Schulz, and Chris Stanley converse at the Signers Memorial, National Mall, Washington, DC, following the second day of competition challenges in the 2023 Young Surveyor Network, Student Competition.

definite accomplishment, but the real reward of the whole experience was getting to meet and hear directly from the surveying legends of today, and to get plugged in to the forefront of progress in our shared profession.

The Cincinnati State Land Surveying students and the members of the Cincinnati NSPS student chapter look forward to continuing the tradition of excellence and proudly representing the Queen City and our region on the national stage.

The Board of Licensure Report

July 2023

Kyle Elliott, Executive Director

Expired Licenses

Licensees with a surname beginning with a letter of A through K were scheduled to renew their individual license(s) by June 30, 2023. Email renewal notices were sent out in April and May and paper renewal notices were mailed in early June for those that had not renewed by then. If you did not renew your license, it is now expired and by Kentucky statute you are prohibited from offering or providing professional services in Kentucky.

Licensees whose license has expired may renew their license(s) for up to one year after it expired. If you are unsure of your license status, please check the Board's online searchable roster here:

<https://elsweb.kyboels.ky.gov/kweb/Searchable-Roster>.

CPD Audits

Audits for continuing professional development (CPD) will begin in early September. Each year five percent of licensees who renewed their license prior to September 1 are randomly selected for a CPD audit to check for compliance with the CPD regulations. You are obligated to respond to an audit notice within thirty days by providing documentation of your CPD activities for the CPD reporting period.

All of those that renew their license after September 1 are subject to an automatic audit of their CPD activities.

Firm Renewals

All business entity permits expire on December 31 every year. Permits can be renewed online like individual license renewals.

Wallet Renewal Cards

We continue to get many inquiries about wallet/renewal cards. We have not issued wallet cards for several years now. I am exploring an option to allow licensees to be able to print a wallet/renewal card when they renew which they can then print out for their own use.

Exam results

The results of the January 1 – June 30, 2023, national exams for Kentucky are listed below.

- Fundamentals of Engineering – 193 exams administered, pass rate of 66%
- Principles and Practice of Engineering – 123 exams administered, pass rate of 63%
- Fundamentals of Surveying – 23 exams administered, pass rate of 74%
- Principles and Practice of Surveying – 12 exams administered, pass rate of 67%

Board of Licensure Enforcement Report

April 1, 2023 – June 30, 2023

Heather L. Baldwin, PE, PLS, Director of Enforcement

DISCIPLINARY ACTIONS

LUCAS HATFIELD, JR.

On April 29, 2022, Lucas Hatfield, Jr., PLS, entered into a Consent Decree with the Board of Licensure for violations of KRS 322.020, KRS 322.180 (15), 201 KAR 18:150, KRS 322.180 (2), 201 KAR 18:142, and KRS 322.060. Among other terms, the Consent Decree called for Hatfield to complete the online 60-hour Texas Tech engineering ethics course within one year, and Hatfield failed to meet this term of the Consent Decree. On May 1, 2023, he was notified that he was in default of the Consent Decree and that he had ten days to cure the default, or his professional land surveying license would be suspended. Lucas Hatfield, Jr.'s professional land surveying license was **SUSPENDED** on May 12, 2023.

LUCAS HATFIELD, JR.

On April 29, 2022, Lucas Hatfield, Jr., PLS, entered into a Consent Decree with the Board of Licensure for violations of KRS 322.020, KRS 322.180 (15), 201 KAR 18:150, KRS 322.180 (2), 201 KAR 18:142, and KRS 322.060. Among other terms, the Consent Decree called for Hatfield to complete the online 60-hour Texas Tech engineering ethics course within one year, and Hatfield failed to meet this term of the Consent Decree. He was notified of the default on May 1, 2023, and his license was suspended on May 12, 2023. After the suspension was in effect, he had thirty days to cure the default, or his professional land surveying license would be revoked. On June 12, 2023, Hatfield was sent a notification of default and revocation, and he was given ten days to cure the default, or his professional land surveying license would be revoked. Lucas Hatfield, Jr.'s professional land surveying license was **REVOKED** on June 23, 2023.

OHLIN & REED CONSULTING ENGINEERS, INC.

Ohlin & Reed Consulting Engineers, Inc. is a corporation organized in the state of Ohio in 2005. On its website, the company listed among its representative engineering projects two Kentucky projects that were

completed in 2008 and 2010. The subsequent investigation found that company also provided engineering services for an additional four Kentucky projects completed since 2016 without a Kentucky business entity permit as required by KRS 322.060. During the investigation, the company applied for and received a business entity permit to practice engineering in Kentucky. To resolve the investigation, the company, through its president John Phillip Reed, agreed to: (1) receive a Letter of Reprimand; (2) pay a fine of \$1,000 within 60 days; (3) maintain a current and valid business entity permit for any period of time in which the company is providing engineering services in Kentucky; and (4) notify the Board in writing of any change in status of the professional engineer(s) in responsible charge of the engineering work in Kentucky within 14 days. The Board of Licensure approved this Consent Decree on July 28, 2023.

JOHN PHILLIP REED, PE #23558

During an investigation of Ohlin & Reed Consulting Engineers, Inc., it was discovered that John Phillip Reed, PE, aided and abetted the company in the unlicensed practice of engineering, in violation of KRS 322.180 (5). Since 2016, the company provided engineering services for four Kentucky projects without obtaining a Kentucky business entity permit to practice engineering, as required by KRS 322.060. To resolve the investigation, Reed agreed to: (1) receive a Letter of Reprimand; (2) pay a fine of \$1,000 within 60 days; and (3) maintain a current and valid business entity permit for Ohlin & Reed Consulting Engineers, Inc. for any period of time in which the company is providing engineering services in Kentucky. The Board of Licensure approved this Consent Decree on July 28, 2023.

PLUMP ENGINEERING, INC.

Plump Engineering, Inc. is a corporation organized in the state of California in 1997. On March 29, 2023, the company applied for a Kentucky business entity permit and failed to disclose two disciplinary actions, a 2012 Missouri action and a 2019 West Virginia action, on its application, which is a violation of KRS 322.180 (1). At that time, it was discovered that the company advertised that it was “licensed in all 50 states” on its website. The subsequent investigation revealed that the company had provided engineering services for twenty-three Kentucky projects from January 1, 2012, to the submission date of the application, in violation of KRS 322.060. To resolve the investigation, the company, through its president Richard A. Plump, agreed to: (1) receive a Letter of Reprimand; (2) pay a fine of \$1,000

within 60 days; (3) maintain a current and valid business entity permit for any period of time in which the company is providing engineering services in Kentucky; and (4) notify the Board in writing of any change in status of the professional engineer(s) in responsible charge of the engineering work in Kentucky within 14 days. The Board of Licensure approved this Consent Decree on July 28, 2023.

RICHARD A. PLUMP, PE #21605

During an investigation of Plump Engineering, Inc., it was discovered that Richard A. Plump, PE, aided and abetted the company in the unlicensed practice of engineering, in violation of KRS 322.180 (5). Since 2012, the company provided engineering services for twenty-three Kentucky projects without obtaining a Kentucky business entity permit to practice engineering, as required by KRS 322.060. To resolve the investigation, Plump agreed to: (1) receive a Letter of Reprimand; (2) pay a fine of \$1,000 within 60 days; and (3) maintain a current and valid business entity permit for Plump Engineering, Inc. for any period of time in which the company is providing engineering services in Kentucky. The Board of Licensure approved this Consent Decree on July 28, 2023.

MICHAEL MERZ, PE #38172

On October 12, 2022, Michael Merz became licensed as a Kentucky professional engineer, by endorsement from Ohio. On February 28, 2023, Merz reported that he entered into a Consent Agreement with the Ohio Board on February 21, 2023, in which he agreed to pay a fine of \$1,000, and to accept a one-year suspension of his Ohio PE license, with that suspension stayed if he provided proof of an Ohio Board approved course on professional ethics within one year. This disciplinary action was the result of a reported June 11, 2022, incident in which Merz applied the Illinois Structural Engineer seal and signature of another licensee to an engineering report without that licensee's involvement, knowledge, or approval. If this incident had occurred in Kentucky, Merz would be in violation of 201 KAR 18:142, Section 3 and Section 9, and KRS 322.180 (3) and (17). Because he was disciplined in Ohio for conduct that would result in disciplinary action in Kentucky, he was also in violation of KRS 322.180 (11). To resolve the investigation, Merz agreed to: (1) receive a Letter of Reprimand; (2) pay a fine of \$1,000 within 60 days; (3) have his license suspended for a period of one year, with that suspension stayed provided that he completes the 60 PDH Intermediate Texas Tech Engineering Ethics course within six months, and with that suspension running

concurrent with the one year suspension imposed by the Ohio Board, which shall terminate upon Merz providing notice of his completion of his Ohio suspension; and (4) complete the 60 PDH Texas Tech Engineering Ethics course within six months. The Board of Licensure approved this Consent Decree on July 28, 2023.

STEPHEN R. HARRIS, PE #26768, PLS #4096

On October 12, 2022, Stephen R. Harris, PE, PLS, reported that he had entered into a Consent Order with the Tennessee Board on September 13, 2022, in which he agreed to pay a civil penalty of \$10,000 and accept a 24-month voluntary suspension of his Tennessee professional land surveying license. Prior to being licensed as a PLS in Tennessee, Harris prepared an ALTA survey, which was complimentary to his engineering work, for a project in Crossville, TN. At the time that he accepted the survey work, Harris's company, Precision Engineering, LLC, did not employ a Tennessee licensed professional land surveyor. On December 12, 2019, under the assumption that he had the permission of the individual, Harris modified the Kentucky professional land surveyor stamp of a former employee to make it appear as his Tennessee PLS stamp, and applied the modified stamp and signature of the former employee to the ALTA survey, without that licensee's involvement, knowledge, or approval. If this incident had occurred in Kentucky, Harris would be in violation of 201 KAR 18:142, Section 3, Section 5, and Section 9, and KRS 322.180 (3) and (17). Because he was disciplined in Tennessee for conduct that would result in disciplinary action in Kentucky, he was also in violation of KRS 322 180 (11). To resolve the investigation, Harris agreed to: (1) receive a Letter of Reprimand; (2) pay a fine of \$1,000 within 60 days; (3) have his license suspended for a period of twenty-four months, with that suspension running concurrent with the 24-month suspension imposed by the Tennessee Board, which shall terminate upon Harris providing notice of his completion of his Tennessee suspension; and (4) complete the 60 PDH Texas Tech Engineering Ethics course within six months. The Board of Licensure approved this Consent Decree on July 28, 2023.

NON-DISCIPLINARY ACTIONS

Cases Closed with a Written Admonishment – 6

- PE - admonishments for CPD violations – 5 (late renewal audits)
- PE/PLS - admonishment for CPD violations – 1 (late renewal audit)

Case Closed with No Action – 3

- PE – CPD (2021 random audit) – no violation - 1
- PE – CPD (invalid exemption claim) – no violation – 1
- Firm (engineering) – withdrew business entity permit application – no violation – 1

KAPS Board of Directors

Meeting Minutes



Date: Saturday, April 1, 2023
Time: 10:00 AM ET
Location: Kentucky Engineering Center
160 Democrat Drive
Frankfort, Kentucky 40601

CALL TO ORDER

KAPS 2023 President Elect, Mike Billings, called the Saturday, April 1, 2023 KAPS Board of Directors meeting to order.

PROXY VOTES:

- a) Shaun Foley to Jon Payne
- b) Bob Smith to Kevin Phillips

MEMBERS PRESENT:

Mike Billings - President-Elect/KSPE Liaison, **Greg Barker** – Past President, **Ben Shinabery** – Vice President of External Affairs/ Falls of the Ohio Chapter Chair, **Kelly Carr** – Director, **James Mayo** – Director/Treasurer, **Richard Matheny** – Director, **Michael Ladnier** – Director, **Tim Tong** - Director/ Bluegrass/Capital Chapter Chair/GIAC Liaison, **Tom Bushelman** – Secretary, **James Elliott** – Northern Kentucky Chapter Chair, **Curtis Felts** – Southeast Chapter Chair, **Johnny Justice** – Highlands Chapter Chair, **John St. Clair** – Scholarship Committee Chair, **Jon Payne** – Publications/Newsletter Chair/Continuing Education Review Committee Chair

STAFF PRESENT:

Nancy Broyles, Executive Administrator

GUESTS PRESENT:

Kyle Elliott – KY Board of Engineers and Land Surveyors

MEMBERS ABSENT:

Bob Smith– President/ Kentucky Board of Licensure Liaison, **Kevin Phillips** – Vice President of Internal Affairs, **Tyler Pence** – Director, **Kevin Simmons** – Audubon Chapter Chair, **Chris Higgins** – Barren River Chapter Chair, **Shaun Foley** - Jackson Purchase Chapter Chair, **Mike McKinney** – Green River Chapter, **Craig Palmer** – KAMP Liaison/KSPE Liaison

REVIEW AND APPROVAL OF BOARD MEETING MINUTES

Kelly Carr made a motion to accept the minutes of the February 4, 2023 meeting. James Mayo seconded. Motion carried.

KAPS OFFICER'S REPORT

President's Report – no report

President Elect's Report – no report

Treasurer's Report – [Financial reports in packet](#)

KAPS Executive Administrator's Report – [Report in packet](#)

OLD BUSINESS

KAPS booth – [Tim Tong and James Elliot presented a draft for the design of the new booth. Their goal is to have a final draft to present to the board the first week of May.](#)

Insurance – [Insurance Review Notes in packet. Greg Barker made a motion to switch to Hannover's general liability coverage. Ben Shinabery seconded. Motion carried.](#)

Memorandum of Agreement - [Ben Shinabery made a motion to accept and sign the Memorandum of Agreement with KY Association of Mitigation Managers as it is written. Tom Bushelman seconded. Motion carried.](#)

Storage Unit – [Richard Matheny reported visiting the current Indiana storage unit for assessment. He plans to rent a box truck and have his crew move the unit to Louisville soon.](#)

Next Board meeting: [Saturday, July 15, 2023 at 10:00 AM ET at Kentucky Engineering Center, 160 Democrat Drive, Frankfort, KY 40601](#)

NEW BUSINESS

Kyle Elliott provided a few updates:

- [Don Pedigo's term is up January 1, 2024](#)
- [CPD Task Force is working through legislation and there are no new decisions at this time](#)
- [The number of surveying exams administered is increasing. There were 15 exams administered the first calendar quarter and 13 have already been scheduled for this quarter.](#)

NSPS Spring Meet – [Ben Shinabery presented a written report on his experience and take-aways at the Spring Meet.](#)

NSPS Spring Meet Sponsors – Tim Tong made a motion to sponsor one of the \$1,500 breaks. Greg Barker seconded. Motion carried.

EX-OFFICIO DIRECTORS' REPORTS

GIAC Liaison – no report

KAMP Liaison – no report

KY State Board of Licensure Liaison – no report

KSPE Liaison – [Report in packet](#)

NSPS Director – no report

Professional Development Chair – Jonathan Payne reported this is a slow season for online courses, but they are being taken.

CHAPTER REPORTS

Audubon – no report

Barren River – no report

Bluegrass-Capital – Tim Tong reported having met regularly and averaging 6-7 in attendance

Falls of the Ohio – Ben Shinabery reported having met regularly with an uptick in attendance. There were 18 at the February meeting. Instead of regular meetings, they have some fun activities planned for the summer.

Green River – no report

Highlands – no report

Northern Kentucky – Tom Bushelman reported having regular meetings and having a planned seminar April 22. Additionally, the chapter has been working with Cincinnati State and gave \$1,000 sponsorship for their students to attend NSPS Spring Meet. The team finished 3/25 in the 4-year college division.

Purchase – no report

Southeast – no report

COMMITTEE REPORTS

Annual Conference – no report

Annual Golf Outing and Picnic – June 16th, 2023 at My Old Kentucky Home State Park. Ben Shinabery has challenged each person from his chapter to reach out to 5 organizations who are associated with surveyors for sponsorships and encourages others to do so as well.

By-Laws – no report

County Surveyors – no report

Education – no report

Ethics and Professional Practice – no report

Finance – no report

Legislative – no report

Membership – no report

Nominating – It is time to collect names for the next BOD election for approval at the next meeting.

Past Presidents – no report

Policy Manual – no report

Public Relations – no report

Publications / Newsletter – Jon Payne reported an Interior Angle edition was published recently and another coming out soon

Scholarship – Report in packet. Greg Barker made a motion to increase the scholarship budget to \$9,000. Tom Bushelman seconded. Motion carried.

SPECIAL COMMITTEE REPORT

Board of Licensure Nominations – Greg Barker reported he will be collecting names for nomination again soon

Continuing Education Hours – no report

Young Surveyors Network – Ben Shinabery reported that in addition to participating in the NSPS Spring Meet, Luke Woodyard and Ethan Carr will be judging the upcoming ACEC competition.

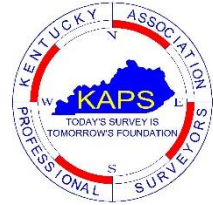
ADJOURNMENT

Tom Bushelman made motion to adjourn. Greg Barker seconded. Motion carried.

Meeting adjourned.

Submitted by Nancy Broyles, Executive Administrator

KAPS ONLINE CPD CONTENT



Make sure to login as a member to get the member rate.

Courses are hosted on an online learning management system which means they are available to you anywhere that you have internet service, and they can be accessed via PC, tablet, smartphone, etc... You will be creating an account and password for that learning management system website.

At the end of the course, you will electronically state that you have personally completed the course in its entirety. Time spent on task, date and time of access, and number of times each section of the course is accessed are all recorded and viewable by the account administrator to help support your statement.

Currently, all fees from the online courses go to the KAPS scholarship fund. If you would like to produce a course to support the scholarship fund, there are KAPS members who will be glad to aid if they can.

<https://www.kaps1.com/online-courses/>



Become a KAPS Member



We would love to have you be a member of KAPS if you are not already one. If you would like to join for a first time or would like to renew your membership for the coming year, you can do so easily online using the following QR code from your smartphone or by visiting the website at:

<https://www.kaps1.com/join-us>



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and

Become a Member of KAPS

Sometimes Included Monthly Puzzle

G T R L Y Q L R N F Z B P T K N S A E G V E Y N W N V I H Q
 I K O W A T T O Y F Y B B M A M B S R U U Q M O Z L W U A P
 T K H T A C J B D A T V Y D I P M M A J Q K F I L C F Z O Z
 Q M D L A V I O M T E Y Y K Y N E X X P W P G T Q K E E G E
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 E K I N U G B X B K Q H N E C L I R R O P Z Y M Y Y W F Y V
 S A T E L L I T E D J X O Z E T L I Y O K L M U N B R G X C
 T W B R A H N F L Z O E J H P D P E P T J E X P I C M V W I
 C C E Z L Z Y O O X V R U R R O D I C E T S Y M J Q N F C H
 S Y E F B O F F P G H S E K D N W E D T P R Y V U V B C B X
 N R C M V M P S E T I L O D O E H T L G O D N X E Q V J D X
 D R A W I N G L S J H J B V B P U B N R I R S R X Y D Q X E
 M M P L Q C G E S B P L A C N U L Y E O W F G I C O N D Q Q
 X V C Z J R I V N H Q R F Z P W A I X T W A Q P G P X T E Q
 R B B B O T O E G E T E H C A M N P Q Y R V V M D L G V S V
 Y G U C T O O L W L T H Y O G R F I T M C Y X W Z U K U G E
 W E L A C S D Z P N N L I I E F X O X L R T G A G M S B N J
 Y N N Y D N E Y H O H Y I V T X X T D O A Z L S Q B W S A S
 F Q U S V E U N K F A P M U X V O T C C X I O O Y B H R L J
 T W V J Q F W G W O U G M C D K J L K Z Z P R S G O C Z N A
 X F X L N E B R X X O G A W N J C J V A D D Y Z J B W C T N
 Y F G R C B W Q X I I P D D B P H T E E M P I L Q Q Q Z H N
 Y V S W K K M F V O P F V J T V H Z Z D F S N H C Y U X M U
 H I Y E P D B Q J F I H J X N E Z L H F D H G D I J H C Z N

Chain
 Deed
 GNSS
 Machete
 Plat
 Pole
 Satellite
 Tack
 TotalStation

Collector
 Description
 GPS
 Monument
 Plumbbob
 Robot
 Scale
 Tape
 Tripod

Compass
 Drawing
 Level
 Optical
 Plummet
 Rod
 Staff
 Theodolite
 Vernier

Find the word in the puzzle.

Words can go in any direction.

Words can share letters as they cross over each other.