

The Oregon

September/October 2025

# Surveyor

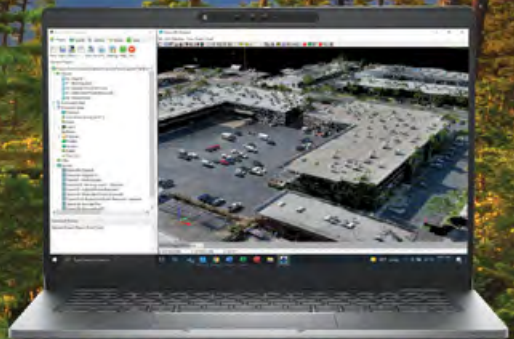
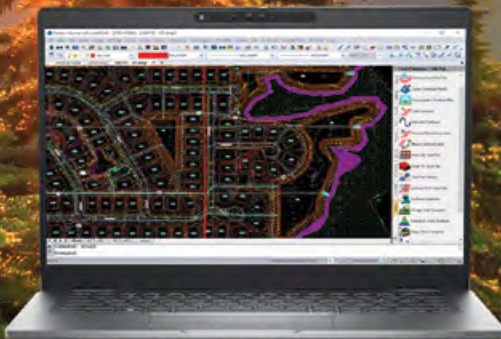
A publication of the Professional Land Surveyors of Oregon



Eugene DiLoreto Final  
Point Monument ..... pg **6**

The Gold Standard of Robert B. Gould,  
Central Oregon Surveyor .....pg **12**

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A publication of the  
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Surveyors of Oregon**

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# Contents

## Editorials

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From the PLSO Chair, *by Dan Nelson, PLS, PLSO Chair of the Board* 2

From the PLSO Office, *by Aimee McAuliffe, PLSO Executive Secretary* 4

## Featured Articles

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Eugene DiLoreto Final Point Monument, *by Eric Osman* 6

The Gold Standard of Robert B. Gould,  
Central Oregon Surveyor, *by Mike Berry, PLS* 12

PLSO and Oregon State Geomatics Program Prepare  
Students for a Bright Future in Surveying, *by Hunter D. Mitchell, LSI* 20

## On the Cover

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*Josh Kowalski standing on top of Djevelporten (Devil's Gate), Svolvær, Norway.*

**The Oregon Surveyor** is a publication of the Professional Land Surveyors of Oregon (PLSO). It is provided as a medium for the expression of individual opinions concerning topics relating to the Land Surveying profession.

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Dan Nelson, PLS, PLSO Board Chair

# A PROFESSION WORTH PRESERVING

## Why Mentorship Matters Now More Than Ever

One of the things I've grown to appreciate most about the land surveying profession is the deep network of support that exists within our community—if you know where to look for it.

I was still fairly green when I first found myself in a position that demanded more of me than I thought I was ready to give. I had just earned my license, and our senior surveyor had been laid off as we clawed our way out of the recession. That left me and another young surveyor in charge of carrying the department forward. We were capable, motivated, and eager—but we were also in over our heads. The reality of suddenly being the most senior surveyors in the office was both exciting and overwhelming.

In that moment, I didn't have a mentor within my own firm. But what I did have was a lifeline: the network of professionals I had come to know through my local PLSO chapter. Though we were technically competitors in business, these experienced surveyors became my mentors, sounding boards, and, in some cases, friends. They helped me think through complex boundary issues, shared examples of how they'd handled similar situations, and let me know I could always call when I needed support.

That generosity—the willingness to support new professionals—is the reason I'm still in this profession and a huge part of the success I've found along the way. You may have noticed that I focus a lot on promoting surveying and supporting the next generation. Those early experiences are exactly why. I believe we each have a responsibility to pay it forward.



To all of you seasoned surveyors reading this: You are the bridge. Your knowledge, your experience, and your time—those are the things that will keep this profession strong.

### Small Teams, Big Responsibility

The truth is, my story isn't unique. Many surveyors across Oregon work in small firms—often with just a few staff members. Some are solo practitioners. In those environments, a new hire might be the only field tech, drafter, or junior surveyor in the company. That isolation makes learning difficult, especially when the only licensed professional is balancing client work, business operations, and production deadlines.

Even in mid-sized firms, more experienced staff are often buried in their own responsibilities, leaving little time to formally train or mentor younger employees. And as seasoned professionals step back from day-to-day roles or transition into retirement, opportunities for mentorship within companies only become more limited.

This is where PLSO can—and must—play a bigger role.

### Why Cross-Firm Mentorship Matters

Formal mentorship programs within firms are ideal, but they're not always practical. That's why cross-firm relationships are

so valuable. It's also one of the greatest strengths of PLSO.

When experienced surveyors make themselves available to guide others, even informally, they help preserve the quality and integrity of our profession. They pass on judgment, ethics, and wisdom that no textbook or CAD program can replicate.

If you've been in the field long enough, you know it's not always the technical tasks that define a good surveyor—it's the judgment calls, the ability to read between the lines of old records, and the confidence to stand behind your professional opinion. That kind of growth only happens through mentorship.

### From Competition to Collaboration

I know it can feel strange to mentor someone from another firm. But in surveying, competition shouldn't mean isolation. We all serve the same public, follow the same laws, and tackle the same professional challenges. Helping each other raises the bar for everyone.

We need to move beyond the idea that knowledge is proprietary. I'm not talking about sharing client lists or field data.

I'm talking about fostering professional growth, encouraging sound decision-making, and building a culture where collaboration is the norm—not the exception.

Some of my most valuable professional relationships are with surveyors who submit proposals for the same work I do. We've swapped ideas, discussed tricky boundaries, and helped each other out when it mattered. That doesn't weaken our competitive edge—it sharpens it.

### How You Can Make a Difference

Whether you're a veteran PLS or someone mid-career who's weathered your share of difficult projects, you have something valuable to offer. Here are a few ways to get involved:

#### Attend Chapter Meetings with Purpose

Look around the room. Is there a younger or unfamiliar face? Introduce yourself. Ask what they're working on or what they like most about surveying. A five-minute conversation can make someone feel seen and welcomed. I'll never forget the guys who walked with me to the parking lot after a meeting just to chat. I didn't even think they knew my name. Now, I call them friends.

#### Offer Your Time, Even in Small Doses

Mentorship doesn't need to be formal or time-consuming. A quick call, a boundary review, or a second opinion can make a world of difference. Let others know your door—or inbox—is open. Sometimes hearing multiple perspectives is exactly what's needed to solve a boundary puzzle. Have you ever wanted a second set of eyes on your narrative before you file that survey? So do others, and this is where you can help.

#### Support Emerging Leaders

Former PLSO Chair Jeremy Sherer launched the Emerging Leaders program, and we're already seeing success stories. Don't wait to be asked—let others know you're available to be a mentor. For younger surveyors, it can be intimidating to ask for help. Be the one who makes that easier.

#### Encourage Participation

If your firm has the flexibility, support junior staff in attending events, training, or PLSO conferences. I've started encouraging and paying my unlicensed staff to attend one day of the annual conference. It's a small investment that helps them grow—and strengthens my team long-term.

### Pass It On

We're at a critical point in our profession. Many of the surveyors who helped shape this field are stepping back, and we don't have enough new licensees to replace them. Without mentorship, knowledge fades and standards slip. (I touched on this in depth in the last issue.)

We can't afford to let the next generation figure it out alone.

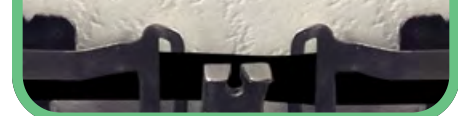
So to all of you seasoned surveyors reading this: You are the bridge. Your knowledge, your experience, and your time—those are the things that will keep this profession strong.

The next great surveyor might not be in your office. They might be sitting quietly at your next chapter meeting, waiting for someone to say hello. Be the person who reaches out. You might just be the reason they stay, grow, and thrive. ▸

## How to Send Us Your Work

Please email the editor Vanessa Salvia with submissions: [vsalvia@gmail.com](mailto:vsalvia@gmail.com).

Your submission should be in .doc format. Please send images separately (not embedded in the document) and at the highest file size available (MB size range versus KB size range—larger sizes are encouraged). Please include the author's name and email address or phone number for contact.



## Award Nomination Request

PLSO is now accepting nominations for our annual awards, and we invite all members to help recognize the individuals and teams whose service, innovation, and dedication make a lasting impact on our profession.

**Do you know a surveyor who demonstrates professionalism, integrity, and a career-long commitment to the field?** Consider nominating them for Surveyor of the Year. Want to recognize someone who's given decades of service to both PLSO and the profession? Submit a nomination for Life Membership. Maybe you know an Associate or Special Member who has gone above and beyond this year, or a colleague who stands out for their good humor, teamwork, bright ideas, or contagious attitude. There's even a Community Service Award, which may be given to an individual or a chapter. And don't forget to nominate your favorite author or contributor for Article of the Year, recognizing impactful writing in this magazine!

The Award Nomination Form is available on the PLSO website under the "Membership Resources - Awards" section. Most nominations should include a biography, supporting documentation, and in some cases, the endorsement of other PLSO members. Please review the requirements carefully—especially for Life Membership and Surveyor of the Year.

Let's come together to celebrate those who lead, support, and inspire us. Submit your nominations today and help honor the best in our profession!

#### For Questions About the Requirements or the Nomination Process:

Awards Committee Chair Dan Nelson [DanN@branchengineering.com](mailto:DanN@branchengineering.com)

#### Completed Nomination Forms can be Emailed to:

Dan Nelson [DanN@branchengineering.com](mailto:DanN@branchengineering.com)

Aimee McAuliffe [Aimee@associatesolutionsmgt.com](mailto:Aimee@associatesolutionsmgt.com)





Aimee McAuliffe, PLSO Exec. Secretary

# CULTIVATING CURIOSITY IN CLIENT COMMUNICATIONS

A

Recently, while doom scrolling through Instagram at 2 AM like any other overly tired insane person, I saw a post by Daniel Pink talking about a study indicating that a certain element of our society that disagrees with scientific consensus often scored the lowest on literacy, and that the more certain someone was, the less likely they were to change their mind. For those who don't know, Daniel Pink is a best-selling author, researcher, and speaker known for his work on human behavior, motivation, workplace dynamics, and the science of persuasion.

The 2022 study he mentioned was by sociologist Nick Light, who was at Portland State University at the time and is now with the University of Oregon. The study noted that clients who are most confident in their personal knowledge—despite not being trained in the topic—often know the least about how these systems function. Their strong belief in their own correctness makes them less likely to accept expert evidence. This resistance is not simply stubbornness, but a cognitive bias: people with limited understanding are often unable to recognize their own knowledge gaps and, as the study notes, those with anti-expert views tend to resist learning because they already think they understand the topic.

This could obviously get political quickly, but that wasn't Pink's point (or mine). He noted, "The next time you're trying to persuade someone, remember: It's not about proving you're right. It's about helping them realize there's more to learn. That's when minds start to open."



It struck me how often we approach disagreements—especially about technical or specialized topics—as contests to be won, rather than opportunities for mutual discovery. What if, instead of focusing on winning the argument, we focused on cultivating curiosity on the how and why?

This insight immediately got me thinking about how often land surveyors have to deliver news to someone who doesn't like what they have to say. In the world of land surveying, precision is everything. Property lines, topographic data, and boundary records must be accurate, verified, and professionally interpreted. Yet communicating technical information to clients, especially when it contradicts their assumptions, can be a challenge.

As your representative in the office, I've been on the receiving end of one or two upset members of the public, hoping I will advocate for what they want. After all, doesn't the PLSO mission include protecting the interests of the public? Of course, never mind that they seem to be ignoring interests of other members of the public or just the common good. This tendency—overconfidence paired with limited expertise—has direct implications for land surveyors working with property owners, developers, and stakeholders.

It struck me how often we approach disagreements—especially about technical or specialized topics—as contests to be won, rather than opportunities for mutual discovery. This is particularly true in professions where expertise is hard-won, and where public misunderstandings can have real consequences. I started to wonder: What if, instead of focusing on winning the argument, we focused on cultivating curiosity on the how and why?

Every surveyor has encountered the confident client who insists, "I know where the boundary is—I've lived here for 30 years," and, in some cases, these claims are emotionally charged. A property line may represent not just land, but identity, family legacy, or perceived rights.

So how can land surveyors respond?


First, it's essential to acknowledge emotional investment. I know that isn't always the forte of professionals that deal in pure facts. When a client is visibly frustrated

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or upset about a boundary issue, they're often responding to more than just data—they're reacting to a perceived loss of control, identity, or fairness. Taking time to listen, validate concerns, and show respect helps build trust and opens the door for more productive conversations. Second, rather than simply correcting misconceptions with facts ("That fence is six feet over the line, here's the map"), surveyors can invite curiosity:

- "Would you like me to walk you through how this boundary was determined using the deed and GPS data?"
- "Have you seen how modern coordinate systems tie into historical records? It surprises a lot of people."

This approach helps reduce the perception of being talked down to and instead encourages a sense of collaboration. By gently challenging overconfidence and offering a learning opportunity, clients may become more open to expert conclusions—even if those conclusions go against their expectations.

In a social media culture that so often pushes anti-intellectual mindsets, it's important to practice intellectual humility. An awareness of one's own knowledge limits is a key factor in helping people accept expert consensus. In a land surveying context, that means helping clients understand that while they may be deeply familiar with the land itself, the legal and technical frameworks that define ownership are a different domain.

This can be achieved by framing expertise as a shared resource, not a power dynamic. For example:

- "I've had the benefit of specialized tools and training, just like you might in your own profession."

- "Think of it like going to a doctor—you know your body better than anyone, but the doctor helps interpret what's going on inside."

Reframing surveying not as "telling people they're wrong" but as translating complex systems can help clients lower their defenses and become more receptive.

In land surveying, our role isn't just to measure—it's to help people make informed decisions about one of their most valued assets. The Portland State

University study reminds us that confidence doesn't equal understanding, and that overcoming overconfidence requires more than just facts—it requires empathy, humility, and strategic communication.

By recognizing the psychological barriers some clients may have, and by approaching every conversation with clarity and respect, surveyors can turn conflict into cooperation, and build a stronger foundation of trust, one line at a time. ▲



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# Eugene DiLoreto

*DiLoreto family members and PLSO members at the dedication. Eugene's wife Florence stands in the center with a cane.*

## Final Point Monument

By Eric Osman, Pioneer Chapter Secretary

**A** September 19, 2022, brought unwelcome tidings to my email inbox. It was news that one of the co-founders of PLSO, Eugene DiLoreto, had passed away. I immediately thought of the NSPS Final Point program and that Eugene was precisely the type of surveyor the program was created for. (You can read an article about the founding of PLSO from the June/July 1999 issue of this magazine at [www.plso.org/inception](http://www.plso.org/inception).)

When I was asked to re-up as Secretary of the Pioneer Chapter for 2023, I saw the opportunity to help make a Final Point for Eugene happen. At the February meeting I suggested we install a NSPS Final Point in his honor and a motion was passed to contact his son, Greg DiLoreto, who is a civil engineer. Jim Greenman accepted this responsibility and reported back in April that the family had chosen

St. Anthony's Church in southeast Portland. However, a site visit would be required to verify a specific location suitable for a GPS observation.

It was March of 2024 before I got in contact with Greg and the pastor of the church. My wife, Kim, and I met with them in June and a tentative location was chosen just south of the large stained glass window. In September, John Putnam

brought his equipment and met me at the church to evaluate the viability of running a GPS session there. To our surprise, Eugene's widow, Florence, and four of his sons and a daughter-in-law were there to observe.

The site proved feasible, but due to close-in trees we decided to wait until the leaves were off the trees in the fall to run the full four-hour observation. The monument was ordered and it arrived in time to pass around at the November Pioneer Chapter meeting. The disc was set in place on December 4 and the observation was performed on December 30, 2024. Unfortunately, the shared solution was submitted, but apparently the NGS never accepted it for posting on the OPUS website.

Finally, on March 22, 2025 a dedication ceremony was held at the monument with about 25 family members in attendance as well as seven representatives from PLSO. Greg DiLoreto was emcee. I gave a short explanation of the Final Point Program, Robert Boyer gave a brief eulogy, and Father Donoghue gave a prayer and blessing.

I never had the pleasure of meeting Eugene DiLoreto. He was a little before my time, as they say. I did sit across the table from him once. It was in February 2018 at Saylor's Country Kitchen in southeast Portland, at the first meeting of my first stint as Pioneer Chapter Secretary. There were 44 people there, making it by far the best-attended of any I've ever been to. I'm not saying it was because Gene was there, but I'm glad he got to see that.

This is an excerpt from the minutes of that meeting:

*Sharing of Stories: [Chapter President] Robert Boyer requested that Gene DiLoreto tell us a bit about the founding of PLSO. Gene obliged and reported that he got his license in 1958. He was complaining to the county surveyor, Clair Pense, about another surveyor's work and that surveyors didn't know each other and had no way to communicate with each other. Mr. Pense suggested Gene start an organization. But Gene demurred and suggested Clair do it, so he did. They met for the first time over on southeast Division Street at a Chinese restaurant. There were eight or 10 of them at that first meeting. The thing "took hold right away." They met in Gene's basement for two or three years and then they started meeting at other*

*continues ►*



*Closeup of monument right out of the box.*



*Robert Boyer, PLS, delivers a brief eulogy at the dedication.*



From left to right, Greg DiLoreto, PE, PLS (Ret.); Vince DiLoreto, PE; Mark DiLoreto, AIA; Robert Boyer, PE, PLS, Global Engineering and Surveying, gave a eulogy on behalf of PLSO; Chuck Spear, PLS, Spear Surveying Services; Eric Osman, Survey Technician, Pioneer Chapter Secretary; Brady McGarry, PLS, Parametrix; Joe Ferguson, PLS, Ferguson Land Surveying; Kirk Norton, PLS, USFWS.



Father Pat Donoghue blesses the monument.



From left to right, Greg DiLoreto, Greg's wife Diane, Chris DiLoreto, Dale DiLoreto, Florence DiLoreto, and Mark DiLoreto at the initial verification on July 31, 2024.



*Family members inspect the monument.*



*Closeup of the monument right after setting in wet concrete on December 4, 2024.*



*John Putnam sets the monument under the direct supervision of Greg DiLoreto on December 4, 2024.*



*Father Pat Donoghue and Florence DiLoreto with GPS session in progress in the background, on Dec 30, 2024.*



John Putnam starting the four-hour observation over the monument, on December 30, 2024.

*continues ►*

places. The logo was created by holding a contest among the members. The winner was a surveyor named Pfeiffer.

Given this limited exposure you might say I didn't know the man at all. But that's not entirely true. I can tell something of who he was by what he created while he was alive. It starts, for me, with PLSO and all the fellowship, commitment, and professionalism I've experienced during my time in the organization. It is clear that he intended to lift up the profession for the good of all Oregonians, and also for the good of the surveying professionals that serve the public, whether they are members of PLSO or not.

I'm sure he would say that his greatest creation, with the considerable help of

his wife, Florence, was his family. I've had the pleasure to meet and spend a little time with them while carrying out this project. They are all accomplished and upstanding citizens and people. This too says a lot about the man that he was. And so I feel like I've come to know him a bit that way as well.

I'm honored to have played a part in creating this monument to his achievements and contributions to the surveying profession.

My thanks go out to everyone who helped with this project: My wife, Kim, for egging me on, John Putnam for technical assistance and equipment, Jered McGrath for digging the money out of his safe, and the PLSO members who contributed to that fund. Also Jim



Finally, on March 22, 2025 a dedication ceremony was held at the monument with about 25 family members in attendance as well as seven representatives from PLSO.

Greenman for making the initial contact with Gene's family, those PLSO members who attended the dedication (you know who you are), Father Patrick Donoghue for allowing the monument to be placed at the parish, and most importantly, Gene's family for their support of the project, especially Greg DiLoreto. ▲

*Eric Osman is on-track to earn his PLS credentials by the end of the year. He is a self-employed survey technician and the secretary of the Pioneer Chapter, which represents the greater Portland area and extends from Hood River to the coast. Over the last 18 years, Osman has worked for several surveyors on a contract basis, performing mostly boundary and topo.*



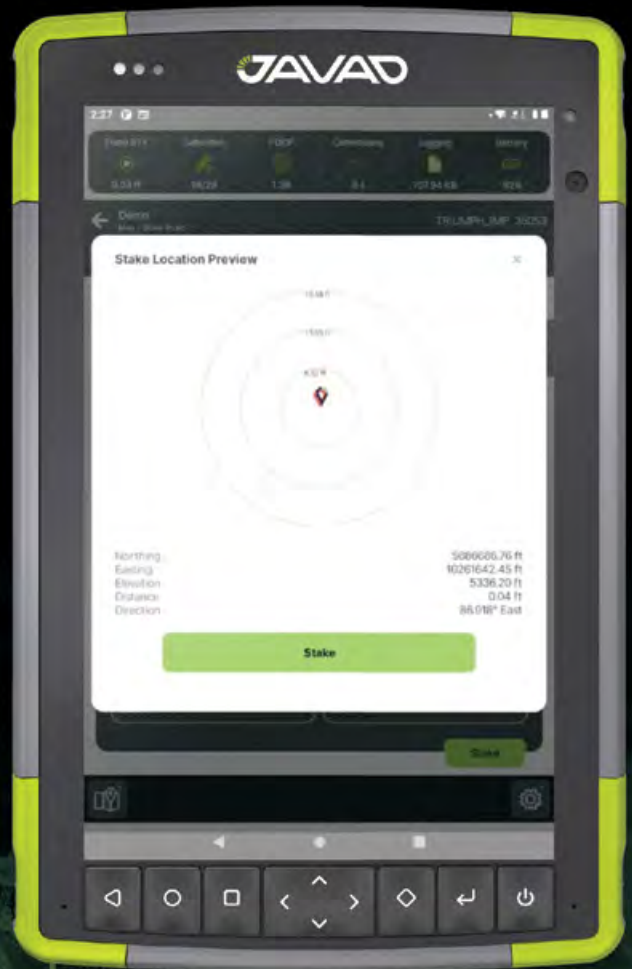
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# The Gold Standard of Robert B. Gould

*Central Oregon Surveyor*

By Mike Berry, PLS



*Robert Beam Gould, 1930s.  
Courtesy of Deschutes County  
Historical Society.*



*1932 State Highway Engineering Crew at the Pilot Butte Inn, Bend, Oregon. Bob Gould, Tony Fossen, Mr. Hardesty, John Runge, Bill Widdows.  
Courtesy of Karen Gould Baker and Deschutes County Historical Society.*



*Sometimes there's a man,  
well, he's the man for his  
time and place, he fits  
right in there. — Sam  
Elliott as "The Stranger"  
in *The Big Lebowski**



*Rebekah Averette, Deschutes County Historical Society Registrar, displays a copy of Gould's 1921 Deschutes Valley Map with 1930 timber lands ownership colored in. Courtesy of Deschutes County Historical Society.*

**A**s concerns Central Oregon, Robert Beam Gould (1883–1940) was the right man in the right place at the right time. He was a civil engineer and land surveyor who arrived in Bend in 1910 and lived there until his death in 1940. He saw the little frontier town of Bend grow from a population of 510 to more than 10,000 in the 30 years he lived there. Eighty-five years later, those of us who survey in this city of more than 100,000 citizens and the surrounding area still find his work relevant.

Although Gould's name is not well known in Central Oregon—there are no roads, buildings, parks, or historical plaques that bear his name—a small community of land surveyors, engineers, cartographers, planners, and historians are eternally grateful that Gould surveyed and mapped so much of this area. His legacy has lived on for generations and will continue to do so for future generations, at least in this very narrow slice of the population.

Bob Gould was born in 1883 in Delaware, Ohio, to John E. and Louise Beam Gould. Within a year they moved to Minneapolis, Minnesota, where his dad was a banker. John died at age 55 from heart failure in 1903 when Bob was 20 years old. Bob worked as a survey technician for various railroads in the Midwest for a couple of years before attending one year of engineering school at the University of California in 1907. By 1908, he was a partner in the engineering firm of Coe, Nasten and Co. in Seattle, Washington.

He arrived in Bend in 1910 at the age of 27, hung out his shingle, and took on his first project—laying out the townsite of La Pine.

In short order, he was performing engineering and survey work for the founder of Bend, Alexander M. Drake, and he soon cornered the market in this section, working for the major movers and shakers of early Bend. He surveyed for homesteaders and ranchers throughout Central Oregon and surveyed the big lumber mill sites along the Deschutes River in Bend along with numerous logging railroad lines. In 1919 he was licensed as Oregon PE 642 in the first group of state licensed engineers.

Gould had a lot of irons in the fire, also serving as the city of Bend surveyor and engineer, the Deschutes County surveyor and engineer, and periodically working as a resident engineer and surveyor for the Oregon State Highway Department.

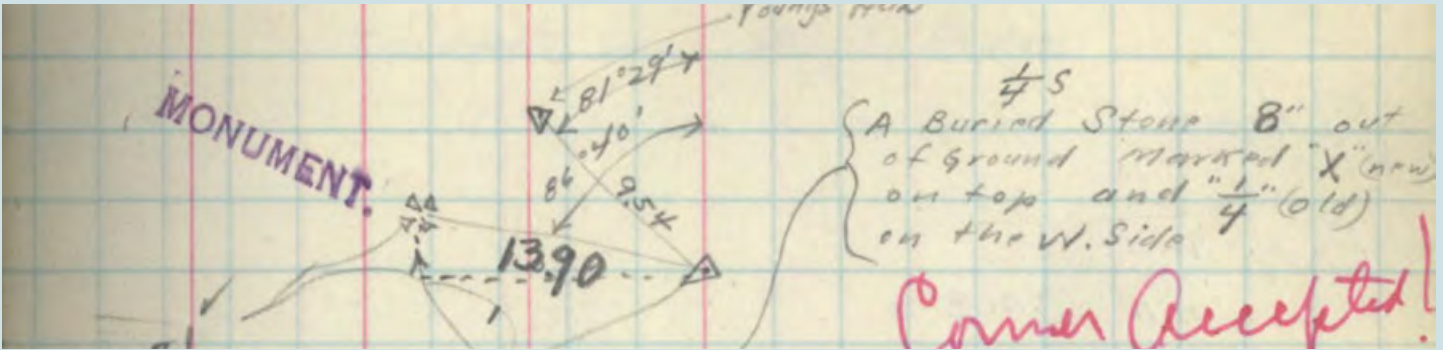
Robert B. Gould and Lillian Claire Balthis (1885–1967) were married on April 16, 1913. Lillian was originally from Randolph County, Missouri, the daughter of Laura Tiffany Spencer Balthis and "Captain" William Henry Balthis Jr., a newspaper editor

and a veteran of the Confederate Army. Lillian had moved to Seattle, where two of her older siblings had settled. It's likely that she and Gould met when he worked in Seattle.

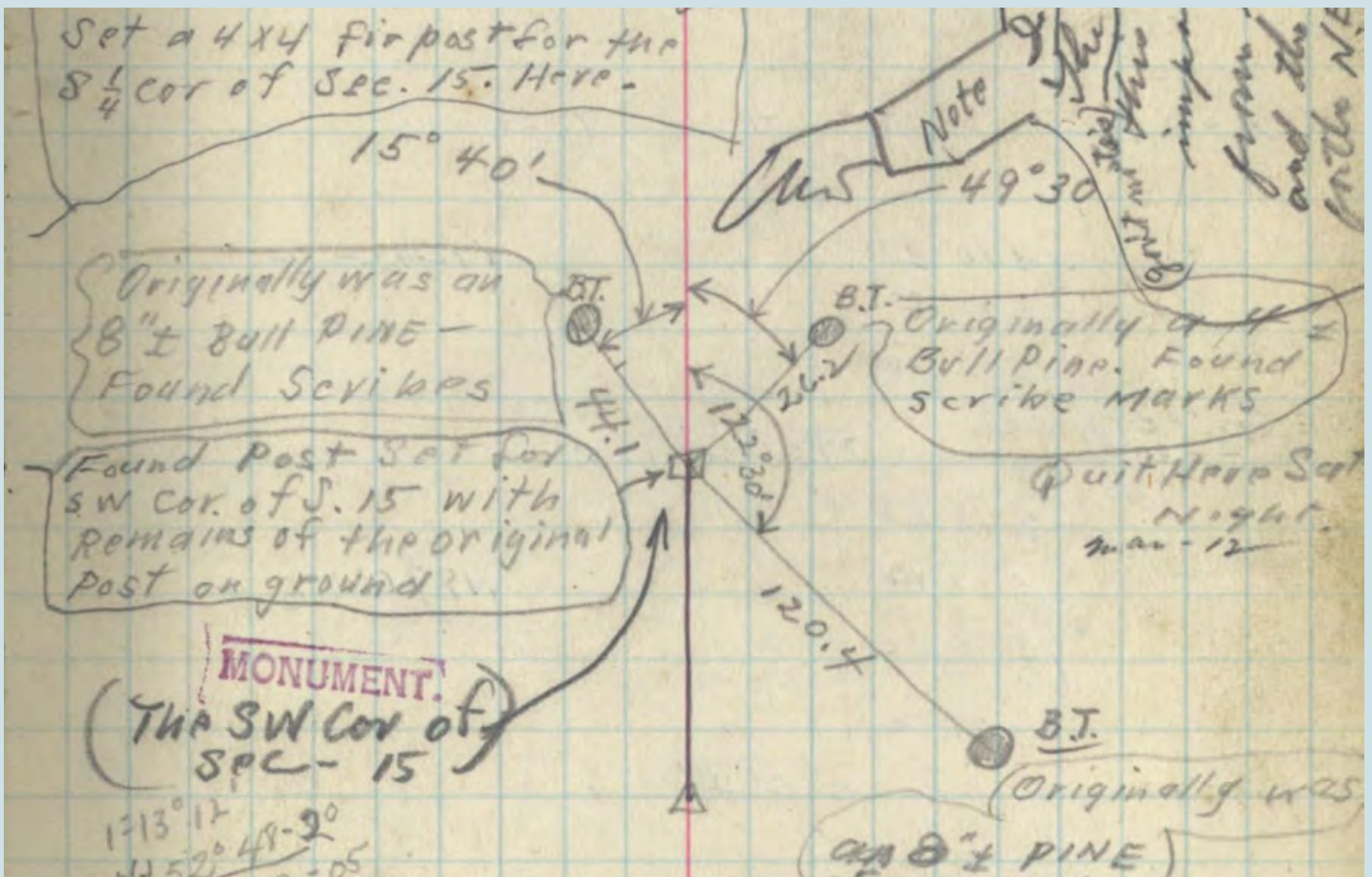
The Goulds built a home overlooking Mirror Pond on Drake Road in Bend in the new subdivision of Pinelyn Park. Gould was a partner in this development with Bend mayor George Palmer Putnam, a scion of the prominent G.P. Putnam and Sons publishing firm of New York City and, in later years, the husband of aviator Amelia Earhart. The Goulds had two sons, Robert Jarvis Gould (1915–1972), known as "Jarvis," and Phillip Rae Gould (1918–1976). Jarvis graduated from the University of Oregon medical school and, after serving in Europe during WWII, moved to

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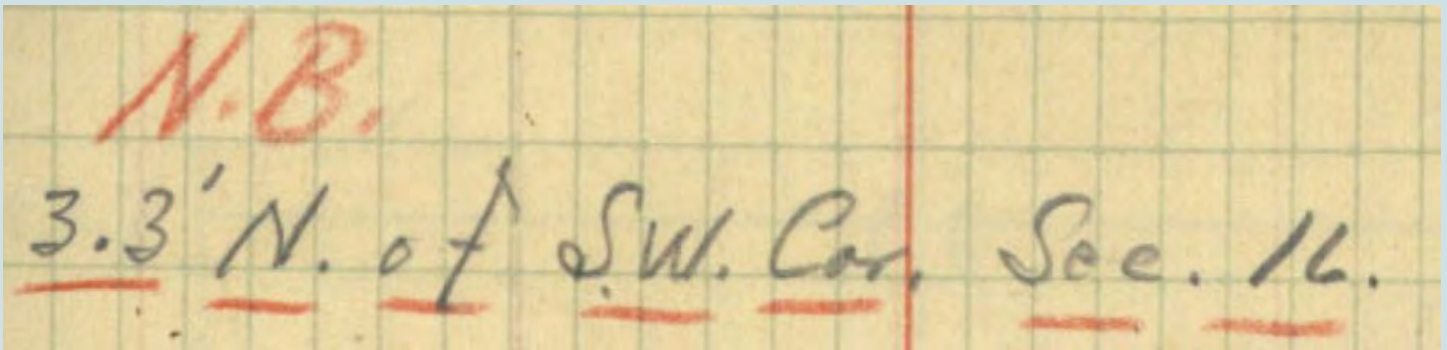
# Gould Field Book Examples



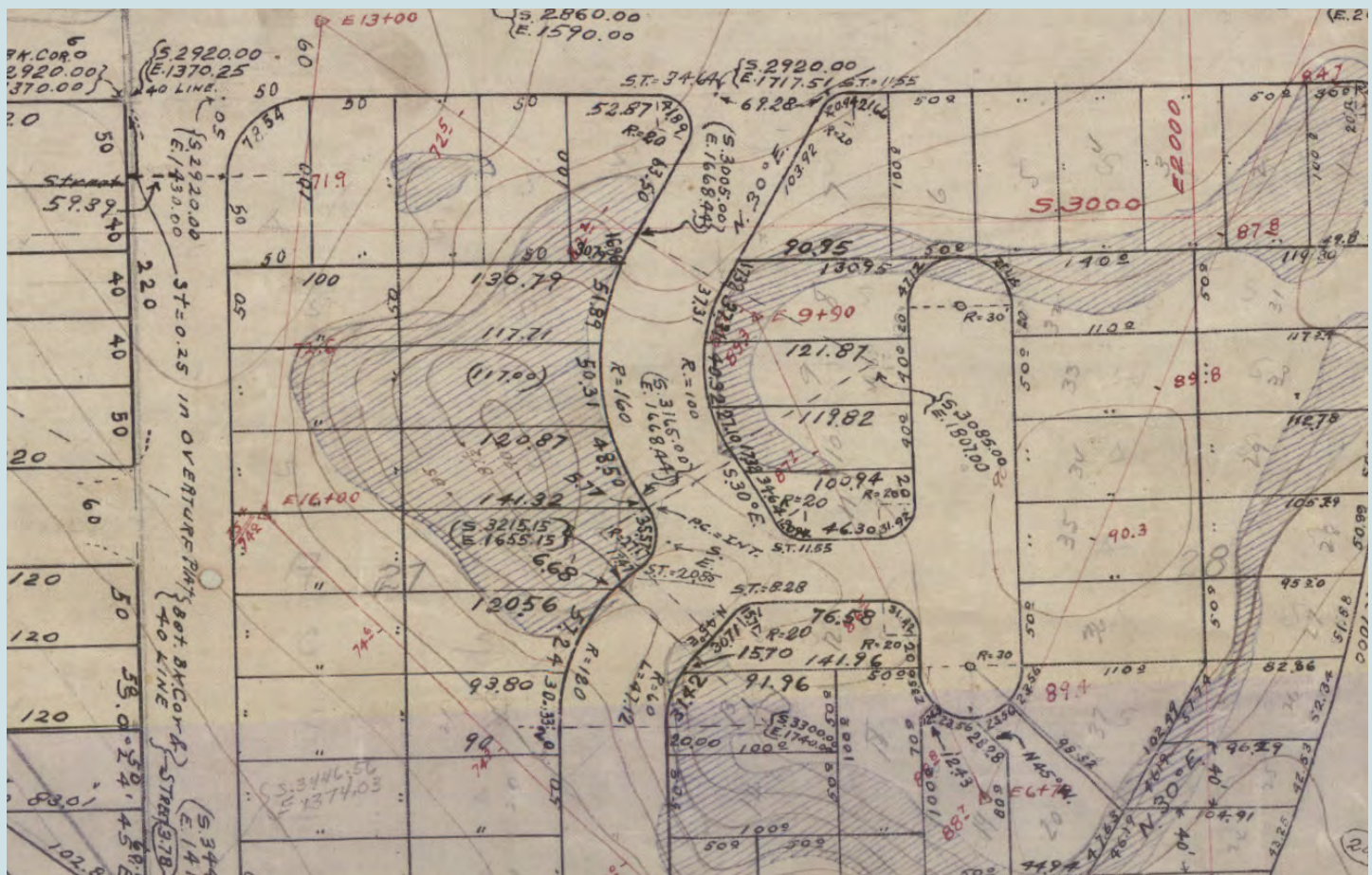
Gould Field Book Example. F.B. 2 Pg. 20. Courtesy of Deschutes County Historical Society.



Gould Field Book Example with "Gould Finger." F.B.1 Pg. 5. Courtesy of Deschutes County Historical Society.



Gould Field Book Example, "Nota Bene." F.B.79 Pg. 25. Courtesy of Deschutes County Historical Society.



Detail of Works Sheet for 1911 Bend Park Add. Note topography, traverse control, and southings and eastings coordinates. Courtesy of Deschutes County Historical Society.



Robert, Jarvis, Phil, and Lillian Gould circa 1920. Courtesy of Karen Gould Baker and Deschutes County Historical Society.



1910 La Pine survey. Gould (left) and developer Alfred Aya, looking northwest at the corner of 6th Street and Stillwell. Courtesy of Karen Gould Baker and Deschutes County Historical Society.

*continues* ►

Portland where he became the administrator of the Multnomah County Hospital and the associate medical director of the University of Oregon Medical School Hospital (now Oregon Health & Science University, OHSU). Phil also attended the UO and, after serving as a Marine in WWII, returned to Bend where he worked for, and later owned, Lumberman's Insurance Company. Phil was also a vice president of Mt. Bachelor Inc. ski area, a member of the Bend Skyliners ski club, and was prominent in civic affairs throughout the area.

Over the years Bob and Lillian's marriage appears to have unraveled. According to Jarvis's daughter, Karen Gould Baker, Lillian was a beautiful woman, who dressed with élan, had a wonderful voice, and aspirations to become an opera singer. The society pages in the *Bend Bulletin* between 1913 and 1931 reflect this, with frequent accounts of Lillian singing solo arrangements at various tea parties, luncheons, and other such soirées. According to Karen, Lillian began to feel left out of Bob's active social life among the swells of the small hick town of Bend. She eventually left Bend in the early 1930s for the big city of Portland. Bob and their sons remained in Bend.

The Deschutes County Surveyor's Office (DCSO) has a large collection of Gould's survey work in their files. To this day, land surveyors regularly consult these documents to retrace the surveys Gould performed in laying out the framework of Deschutes County. There are 63 of his surveys filed in DCSO survey records, most of which are subdivision plats. Since he died before survey filing was implemented in state law, not many of these surveys are boundary surveys. However, the DCSO has 44 field books and 10 calculation books from his private business, which are helpful in researching the plats and boundary surveys he performed.

Gould surveyed hundreds of miles of county roads and state highways in Central Oregon and the Deschutes County Road Department has 83 of his road survey field books which include transit notes (traversing), levels, cross sections, and quantity calculations. As far as road surveyors, there are somewhere in the neighborhood of 150 of Gould's roll maps, road tracings, and profiles at the Road Department.

His plats and road survey maps are clean and elegant. The icing on the cake is the

notes in his field books. There you will find monumentation information, reference mark ties, and copious notations and sketches. The DCSO has indexed both the county road and private practice field book collections, so a surveyor can find the various field notes by road or client name, township/range/section, date, type of notes, etc.

The road survey field notes are fairly conventional for that era and typically contain more detailed monumentation and reference mark information than shown on the maps.

His private business field books are another story. The notes can be a dog's breakfast, crowded with a multitude of notes, arrows, cross-outs, sketches, and addendum notes added years or decades later as the jobs and/or monuments were revisited and revised accordingly.

I pity the surveyor who, retracing Gould's surveys, does not delve into the field books accompanying his surveys. At first blush these books appear scattershot and reckless, but when you auger down into a given page you find that he has left more "footprints" to follow than the map could ever show. Many pages, especially where he was retracing boundaries, are replete with notes on what he found or set and what monumentation or evidence he used. A field note accentuated with the notation of "N.B." (the abbreviation for "Nota Bene", Latin for "note well") is one that the prudent surveyor should examine very carefully.

Gould had rubber stamps made to stamp sections of his field books. These included stamps saying "MONUMENT" and "OBSOLETE" and others that categorized projects into various geographic areas, to wit, "Bend Main Base" (possibly the Bend city limits and environs?), "Bend Secondary" (outlying areas?), "C.O. Secondary" (C.O. = Central Oregon), and "C.O. Supplemental." The key to his homegrown 1910s G.I.S. is long gone, but these designations were no doubt beneficial to him at the time.

His field books will cross reference other field books. For a traverse point in 1910 Field Book 1, page 15, he has a 1/31/1917 note to "See F.B. 12-Pg. 49" for confirmation that his point was again tied for another job and still valid. He will also make reference to his calculation books, which were early 1900s "Standard Figuring Books," containing his longhand

*continues* ►



*Bill Widdows at instrument and Jarvis Gould chaining in at the intersection of Broadway (Hwy. 20) and Washington in Burns, Oregon. Mid 1930s. Courtesy of Karen Gould Baker and Deschutes County Historical Society.*



*Three buckaroos flanked by Gould (right) and some office guy. Courtesy of Karen Gould Baker and Deschutes County Historical Society.*

continues ►

calculations for traverse computations, curve layouts, quantities etc. These calc books have double or triple check marks at the solutions of the various computations. His work was obviously exacting and precise.

In his field books, a note for a calculation book will read "See C.B. 9, Pg. 59". This particular calc book page is noteworthy in that Gould explains that in 1928 he found a chaining error in a subdivision breakdown by his 1920 crew due to faulty (slack) chaining. After his explanation of the problem and where the correct calculations can be found, he scrawled in a

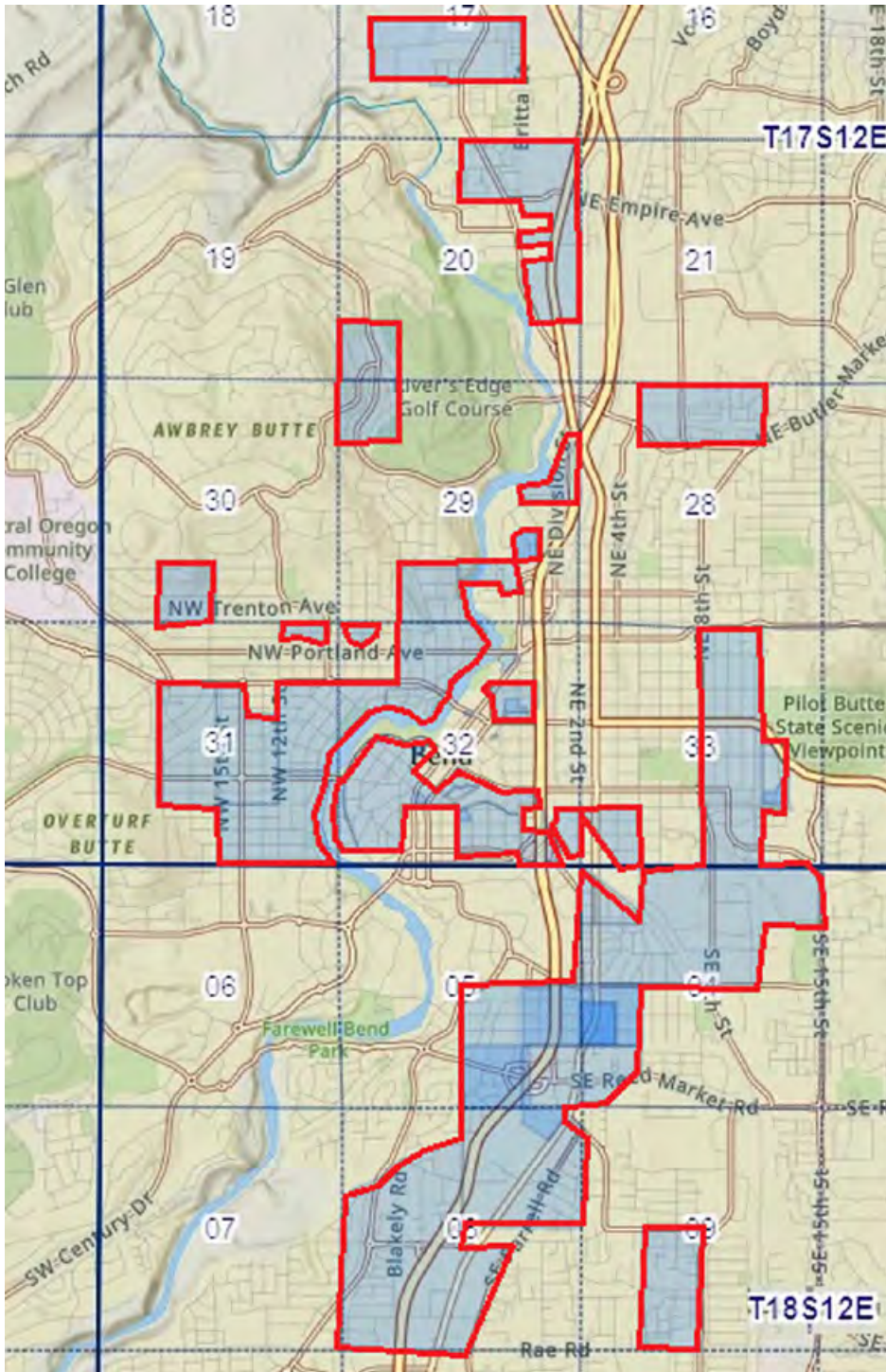
strong, angry hand: "Damn a man who will not pull a tape tight!"

His field work is legendary in Central Oregon. He trained his crews well. Checks between found Gould monuments are usually within the tolerances we expect to see from later theodolite/EDM work. He set hundreds of steel pipes and "Ford Axles" and when he tied references to corners or road P.I.s, they were usually finish nails set in side-center blazes two or three feet up tree trunks. Often the corners have been obliterated but the reference nails survive in the indestructible slow-growing juniper trees that proliferate throughout the region.

When I started working in Bend in 1977, the old-guard surveyors raved about Gould's work. A testament by one of his crew members can be found in an old *Bend Bulletin* newspaper. Tony Fossen retired from the Oregon State Highway Department (OSHD) in 1960 after 30 years as a senior resident engineer in the OSHD Bend office. His survey career began in 1923 working for Gould. In an interview about Fossen's storied career, he recounts the time in the early 1920s when they were laying out the six-mile tangent of Highway 20 from the base of Black Butte to the town of Sisters. Fossen was the head chainman and Gould told the crew the night before that they would fall any trees on line, no offsetting. Gould wanted the six miles surveyed as accurately as possible. At the end of the six mile tangent, they missed their mark in Sisters "by three or four inches." Fossen stated, "I never saw that fellow so happy in all my life. Bob said if we missed it by four feet he still would have been happy. Every time I go up that road now I think of Bob Gould. And I'm happy about it."

Gould also set scores of city monuments in Bend. Most are centerline/centerline steel monuments set below grade. This collection is on file at the DCSO.

In 2005, Steve Powell of the city of Bend engineering department contacted the DCSO about "old maps" that the engineers had deemed obsolete and were throwing out. Steve recognized that this purge included maps that were still important to surveyors. The DCSO salvaged more than 150 of these maps, with 80 of them made by Gould. Although many of the maps are inconsequential or trivial, some of them are extremely informative, especially the worksheets that Gould made for the subdivision plats he



Areas platted by Gould in Bend.

recorded. These large worksheets include coordinate values (he used a homegrown, city-wide coordinate system that an earlier surveyor, L.D. Wiest, had developed in 1903), additional notes on monumentation and various notes and calls for field and calculation books.

When fellow DCSO employee Scott Freshwaters and I unpacked all the Gould maps from the city, we were dumbstruck by the amount of work he had done compiling all of this heretofore unknown information. We commented that it wasn't surprising he died of heart failure at the age of 56. It turns out Gould was cursed by genetics. His grandfather, father, and both of his sons all died of heart failure in their mid 50s. When I first spoke with his surviving grandson, Professor Robert J. Gould of Portland State University, he joked that he has made it well past the family's cursed mid-50s age thanks to cholesterol medications.

As regards Gould's reputation among local historians, his masterpiece is the 1915 map titled "Map of the Deschutes Valley, Central Oregon." He published it in January 1916, and, ever the entrepreneur, offered copies for sale. The map is seven feet tall and 4.5 feet wide. West to east it spans from the crest of the Cascades to the Millican Valley and north to south from Madras to Silver Lake. All told it covers almost 7,000 square miles, and includes roads, trails, 47 towns (many of which no longer exist), existing and proposed irrigation canals and railroad lines, streams, lakes, mountains, and now-obscure sites such as "Tin Can Canyon," "Wet Weather Springs," and "Dutch John's Place." It is an amazing snapshot in time of a wild, unsettled land.

In 1921 Gould published an updated map of the Deschutes Valley. According to an article in the March 18, 1922 *Morning Oregonian*, the State Geological Department proclaimed it to be "the finest piece of map making work ever to be produced in the state."

To understand Gould's reputation in Central Oregon at the time of his death, the January 30, 1940 *Bend Bulletin* editorial by Robert W. Sawyer is illuminating:

**Robert B. Gould**

*There are few, if any, of us here in Bend whose death would cause more sorrow than that felt since Bob Gould was taken yesterday... Almost everybody knew him: no one knew him who was not his friend. There is no one who knew him*

*well whose feeling of friendship did not grow into something akin to affection.*

*Bob Gould was a good engineer. He could not otherwise have given the service he did to those who employed him: the State, Bend and other Central Oregon cities, the county and scores of firms and individuals... His standards were high. There's hardly a road of major importance in the county that does not have his mark on it. He laid out most of the additions to Bend. He planned and supervised the street paving in Bend, Burns and Lakeview. He ran the lines for a good many miles of railroad... His map of Deschutes County and his various maps of Bend testified to the care, the skill and the accuracy with which he did his work.*

*But a man does not make and keep friends because he is a good engineer or whatever else his profession may be. Nor did Bob Gould... His honesty and sincerity and, above all, his droll sense of humor drew one to him. It was fun to be with him and to hear him tell a story or relate an experience, more often than not one in which the joke was on him....*

*On the serious side, in a connection with his work he was capable of a rare detachment. Better than any he could hold a question up, examine it on every side with all personal feeling eliminated and reach a conclusion. It might be a conclusion opposed to his own interest or his belief of what ought to be. If logic led to the result he accepted it.*

*In recent years our friend endured a great deal. Physical ills crippled him frequently... In spite of suffering, however, his buoyant spirit and, above all, his interest and pride in the progress of his two fine sons kept his head unbowed. There is grief in Bob Gould's going but happy memories of him are left.*

A week later Sawyer published another article titled "A Bob Gould Story." Sawyer related that Gould supervised a number of large construction projects and in one instance he "came into contact with contractors of varying ethical standards." The contractors said they wanted everything to go "smoothly" and since they clandestinely discovered that Gould had a large mortgage on his home, they stated that when the job was over and everything had been to their liking, they would be glad to pay off the mortgage.

Gould replied, "Well, you're right. I am to inspect your work and there is a mortgage

on my house and it would help a lot if it were paid off. I'll tell you what... you do good work, follow the specification in the contract as carefully as you know how and I'll take care of the inspections and keep the regular checks on the materials and the way the work is done. I'll be as fair as I can and when the job is done and if you are satisfied that I have been fair and have treated you fairly—then you can take me over to Simpson's and buy me a White Owl cigar."

Those two tributes by Sawyer to Gould's character constitute a master class in professionalism and ethics. Bobby Gould not only set the gold standard in Central Oregon for exceptional surveying, he also set the bar high for ethics and professionalism. By all accounts he was a good-natured, trustworthy, and ethical citizen and one helluva surveyor. Eighty-five years after his death, he might not be the most talked-about pioneer of this region, but odds are that the body of his work is more relevant today than those of his more famous local peers.

I'm sure other regions of Oregon, and the U.S. in general, had surveyors like Gould who were head and shoulders above their peers, who set the gold standard for their area. That is why it is key for today's surveyors to talk to other local surveyors, visit the county surveyor's office, the local DOT office, the BLM, and find out who the earlier players were and how reliable and competent they were. These folks know who to hang their license on and who to follow with a grain of salt, if at all. A neat and tidy survey from 1963 by {name redacted} can rocket you down the road to survey perdition while you unwittingly ignored a seemingly rudimentary survey by an obscure old dude from the 1930s. Talk to your peers, research obscure records, and leave your own high standard for those who follow you 85 years from now. ▴

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*Mike Berry lives in Bend, Oregon. His survey career has included both private and public sector work, primarily in Central and Eastern Oregon. He is a history enthusiast and a volunteer at the Deschutes County Historical Society.*

# PLSO and Oregon State

# Geomatics Program

# Prepare Students for a

# Bright Future in Surveying

By Hunter D. Mitchell, LSI, PLSO OSU Student Chapter President



*OSU Survey Team eagerly prepares for their level loop on Portland State University's campus.*

A

The future of the surveying profession is in good hands. The upcoming generation of folks are becoming more aware of surveying and its many roles in our daily lives. The Professional Land Surveyors of Oregon (PLSO) student chapter at Oregon State University (OSU) and OSU Geomatics is proudly committed to continuing exposure and involvement of students within surveying.

This year, a group of PLSO OSU student chapter members from varying backgrounds assembled a team to compete in the American Society of Civil Engineers (ASCE) and Utility Engineering and Surveying Institute (UESI) surveying competition. OSU placed first overall at the Pacific Northwest regional symposium hosted at Portland State University, as well as fifth overall and first in field tasks at the society wide competition in San Luis Obispo.

Our team consisted of five competitors: Team Captain Liam Crowley, Team Co-Captain Jayce Clevenger, Claire Silva, Cole Hudnall, and Ty May, all of which are PLSO OSU student members and enrolled in the OSU Geomatics minor.

The UESI surveying competition is young compared to the other events hosted within the ASCE symposiums. However, it is growing with each year and making the

same incredible impact on its students involved. This year, 116 teams competed in their respective regional symposium's UESI surveying competition—19 regional winners were then invited to compete in the ASCE society-wide surveying competition.

The competition is composed of three major categories for students to compete in:

- Drafting a topographic map / subdivision plat with Civil3D.
- A formal presentation of their final maps in front of an ASCE judge panel.
- Performing field surveying-engineering tasks by hand such as a building corner stakeout, cut and fill volume calculations, and differential leveling.

Each category enables teams to gain exposure to real-world problems, practical decision-making, survey/CAD software, survey instrumentation, and lastly encourages outreach to surveying professionals for guidance. Our team spent several hours on and off campus preparing for each task, and their work certainly paid off.

Liam Crowley, LSI, team captain and 2025 OSU graduate, played a significant role in leadership, spirit, and keeping our team on course for success.

“Countless hours of preparation went into these competitions,” Liam said. “We spent time practicing every field task outlined in the judging forms and using software to produce a topographic map and subdivision design. Our approach in the field was simple yet effective, to ensure every team member could perform every task in any crew position. The combination of practice, coursework from OSU’s geomatics engineering minor, and industry experience from internships allowed us to excel regardless of the environment.”

After the competition, Liam finished his summer internship with the Linn County Survey Office, received his Land Surveying Intern certification, and will soon begin his role as Sales Engineer at Kuker-Ranken.

Several great minds went into preparing for this competition. In fact, some folks, despite their age, brought years of experience to the team. Ty May, an upcoming

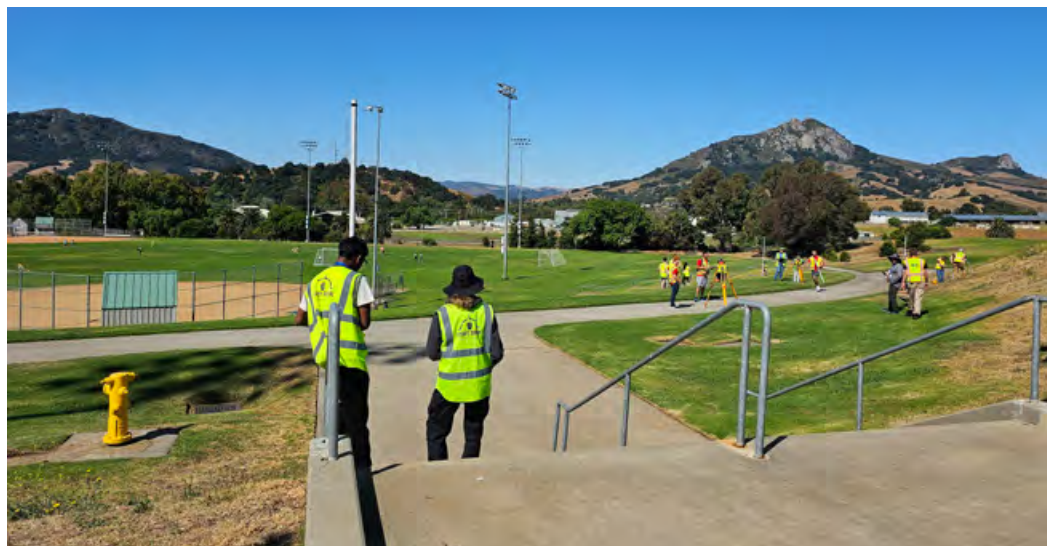
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*OSU Survey Team confidently walks off the field after a long day of completing field tasks in San Luis Obispo. (Left to right: Claire Silva, Ty May, Jayce Clevenger, Cole Hudnall, Liam Crowley).*



*OSU Survey team takes a victory photo with the ASCE president at the Society Wide award banquet. OSU was awarded fifth overall and first in survey field tasks.*



*Several teams perform their field tasks together. Here OSU is one of five other teams performing their level loop on Cal Poly San Luis Obispo's campus.*

continues ►

third-year Civil Engineering student, only 19 years old, shared his three years of surveying experience with our team. Ty learned of our team only weeks before the competition.

"I still remember getting the email from Brett Murphy, letting me know the team was looking for one more member. He had recommended me after we talked about my three years of survey experience working at Coles Surveying in Corvallis," Ty said. "I was a little nervous walking into my first team meeting, but that quickly changed. Once I got to know everyone and realized we all shared the same goal, I immediately felt at home and loved every minute of it. When I joined the survey team, I was at a bit of a low point in my career. I had just finished playing football at Oregon State and was feeling a little lost about how I'd spend my time. I had school and work, but I still had that drive to compete. When I learned I could compete in surveying, I was hooked."

Ty continues to survey with Cole Surveying and plans to follow the path of licensure and lead the next generation of surveyors in Oregon.

There were significant challenges faced uniquely by OSU in this competition. OSU operates on a three-term system, and in our case, this resulted in final maps due at the same time as final exams...but some folks are naturals when it comes to embracing challenges. Cole Hudnall, LSI, entering his final year in Civil Engineering,

took charge of grading the learning curve of navigating Civil3D for our entire team. For many of us, it was our first opportunity to tinker with data that wasn't collected by our crew or produce a deliverable for a "client" we've never met.

"One of the most daunting parts of the competition was opening the given Civil3D files and thinking, 'I have no idea how we are gonna turn THIS into something hopefully useful and resembling a map.' Once we got some direction from our industry sponsors, professors, and YouTube, another challenging aspect came up. It was the fact that we had to guess on what was needed, nice to have, and useless for our maps. It wasn't as simple as checking off the boxes on a rubric which kind of made this part of the competition fun."

Cole continued to chip away at each function in Civil3D to refine our final topographic map that helped us win regionals and our subdivision plat that received praise and feedback from judges at society wide. Cole also achieved his LSI certification this year and is currently surveying far-away corners in Fairbanks with 3-Tier Alaska. (He has already lost one can of bear spray.)

A major benefit of competing in an event that replicates real-world surveying challenges with several other teams from notable civil and survey programs is that students are challenged to be well-versed in practical education outside of their classroom to succeed in the competition.

Jayce Clevenger, LSI, EIT, team co-captain, former surveying lab assistant and 2025 OSU graduate, is able to speak on behalf of applying his competition experience into his now full-time role in the profession.

"The UESI Surveying Competition was a great showcase of applying academic concepts to real-world problems that arise in the profession every day," Jayce said. "It enabled us to see how well the Oregon State University Geomatics Engineering minor prepared us for surveying outside of the classroom environment. Many of us had very little experience in CAD programs, but we had a solid foundation in the process of obtaining the data in the field and where we could see errors occurring. I believe that is what sets us apart from the competition, the practical experience gained in industry and under the coursework of professionals who teach from experience. As an outgoing senior who is entering the profession, I hope we set the tone, intriguing more students and provide the visibility the discipline deserves."

Jayce is currently pursuing dual-licensure and working full-time for Branch Engineering.

The opportunity to work as a team on these projects while simultaneously pursuing their degrees exemplifies the capabilities this team has and will bring to the profession. Teamwork is tough at times but rewarding when done right.

Claire Silva, entering her final year in Construction Engineering Management and surveying lab assistant, has set the standard for being the all well-rounded team member. She brought contagious motivation, eagerness for all tasks, and confident leadership every time it was needed.

"Competing in this surveying competition was one of my favorite experiences since starting at Oregon State," Claire said. "I wasn't super excited at first about the extra work it added during the school year, but in the end, walking away with our team's first place in field tasks made it all worth it. Getting to know the kind judges who volunteer for the event was really rewarding. But the best part for me was that my team and I had a great time. Going through something like this definitely brought us closer, and I'm already looking forward to seeing what we can do next year."



Survey teams were asked to host a booth with their subdivision plats for judges and teams to provide additional feedback. Here there ASCE UESI Judges provide feedback to OSU.

Claire is currently interning at Psomas Engineering and has proudly shared, "My Civil3D knowledge from the competition is already coming in handy."

Overall, our team wants to extend a HUGE thank you to each of our sponsors. This opportunity wouldn't have been possible without their help. These folks, in no particular order, are passionate about supporting future surveyors and engineers:

- Professional Land Surveyors of Oregon
- 3-Tier Alaska
- Cascade Timber
- CMT Surveying & Consulting
- Cole Surveying
- David Evans & Associates
- DPR Construction
- Linn County Surveyor's Office
- Northwest Surveying
- Nyfeler Survey

We also want to extend a thank you to the very supportive folks at Oregon State Geomatics. The passion of our instructors and professors, and caliber of instruction in surveying practice and theory has made significant impacts to everyone in our team.

"Every single member showcased incredible strength, perseverance, and skill throughout these competitions," Liam said. "Whether it was in the field, computer lab, classroom, or during the competition, everyone demonstrated what it means to study geomatics at Oregon State." ▴

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